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Helvetii of any foreign power. The government of this body is chiefly democratic, with some mixture of the aristocratic.

HELKETII, a people of Belgica, in the neighbourhood of the Allobroges and the Provincia Romana; famed for bravery and a turn for war. Called *Civitas Helvetia*, and divided into four Pagi or Cantons; situated to the south and west of the Rhine, by which they were divided from the Germans; and extending towards Gaul, from which they were separated by mount Jura on the west, and by the Rhodanus and Lacus Lemanus on the south, and therefore called a Gallic nation (Tacitus, Cæsar, Strabo, Ptolemy, Pliny.) Formerly a part of Celtic Gaul, but by Augustus assigned to Belgica.

HELVETIUS (Adrian), an eminent physician, born in Holland. After having studied physic at Leyden, he went to Paris, where he acquired great reputation in his profession. He introduced in France the use of ipecacuanha in the cure of dysenteries; a remedy which he at first kept secret, but was ordered to make it public, and on that account received a gratification from the king of 1000 louis d'ors. He was made inspector-general of the hospitals in Flanders, physician to the duke of Orleans, regent of France, &c.; and died at Paris, in 1727, aged 65. He wrote a treatise on the most common diseases, and the remedies proper for their cure (the best edition of which is that of 1724, in two volumes octavo); and other works.

HELVETIUS (John-Claude), son of the above, was born in 1685, and died in 1755. He was first physician to the queen, and greatly encouraged by the town as well as court. He was, like his father, inspector-general of the military hospitals. He was of the Academy of Sciences at Paris, of the Royal Society in London, and of the Academies of Prussia, Florence, and Bologna. He is the author of 1. *Idée Générale de l'économie animale*, 1722, 8vo. 2. *Principia Physico-Medica, in tyronum Medicinæ gratiam conscripta*, 2 vols. 8vo.

We may just mention also, that he is the father of the Monf. HELVETIUS, who wrote the celebrated book *De l'Esprit*; and whom Voltaire calls "a true philosopher;" but whose book was stigmatized by the authors of the *Journal de Trevoux*, and suppressed by the government.

HELVICUS (Christopher), professor of divinity, Greek, and the Oriental tongues, in the university of Gissen, died in the flower of his age in 1617; after having published several books, and projected more. The Hebrew language was so familiar to him, that he spoke it as fluently as his mother tongue. He was not only a good grammarian, but also an able chronologer. His chronological tables have been greatly esteemed, though they are not free from errors.

HELVIDIANS, a sect of ancient heretics, denominated from their leader Helvidius, a disciple of Auentius the Arian, whose distinguishing principle was, that Mary, the mother of Jesus, did not continue a virgin, but had other children by Joseph.

HELVOET-SLUYS, a sea-port town of the United Netherlands, seated on the island of Voorn, in the province of Holland, and where the English packet-boat always goes. It is but a small place, consisting only of a handsome quay, and two or three little

streets. But it is very well fortified, and esteemed the safest harbour in the country. The largest men of war may come up to the middle of the town; and yet it has but very little trade, because the merchants choose to live higher up the country. E. Long. 4. o. N. Lat. 51. 44.

HEMATH, or HAMATH, (anc. geog.), the name of a city (whose king was David's friend, 2 Sam. ix.) to the south of Lebanon; from which a territory was called *Nemath*, on the north of Canaan and south of Syria, as appears by the spies, Numb. xiii. 1 Kings viii. Ezek. xlvii. Whether one or more cities and districts of this name lay in this tract, neither interpreters nor geographers are agreed. The eastern part was called *Hemath zoba*, 2 Chron. viii. unless we suppose that there was a city in Zoba of this name fortified by Solomon. In defining the boundary of Palestine, it is often said, *from the entering of Hamath*; as a province to be entered into through a strait or defile. And if there was such, the next question is, From what metropolis it was called *Hemath*? Antioch, capital of Syria, is supposed to be called *Hemath* or *Amatha*, (Jonathan, Targum, &c.); and again, *Epiphania*, (Josephus.) Both were to the north of Lebanon; consequently not the *Hemath* of Scripture, the immediate boundary of Palestine to the north, and lying to the south of Lebanon.

HEMATITES, See HÆMATITES.

HEMELAR (John), an eminent antiquarian, and canon of Antwerp, in the 17th century, was born at the Hague; and wrote a work, entitled, *Expositio Numismatum imperatorum Romanorum à Julio Cæsare ad Heraclium*; which is very scarce, though it has had several editions.

HEMEROBAPTISTS, a sect among the ancient Jews, thus called from their washing and bathing every day, in all seasons; and performing this custom with the greatest solemnity, as a religious rite necessary to salvation.

Epiphanius, who mentions this as the fourth heresy among the Jews, observes, that in other points these heretics had much the same opinions as the Scribes and Pharisees; only that they denied the resurrection of the dead, in common with the Sadducees, and retained a few other of the improprieties of these last.

The sects who pass in the East under the denomination of Sabians, calling themselves *Mendai Iahi*, or the *disciples of John*, and whom the Europeans entitle the *Christians of St John*, because they yet retain some knowledge of the gospel, is probably of Jewish origin, and seems to have been derived from the ancient Hemerobaptists; at least it is certain, that that John, whom they consider as the founder of their sect, bears no sort of similitude to John the Baptist, but rather resembles the person of that name whom the ancient writers represent as the chief of the Jewish Hemerobaptists. These ambiguous Christians dwell in Persia and Arabia, and principally at Bassora; and their religion consists in bodily washings, performed frequently, and with great solemnity, and attended with certain ceremonies which the priests mingle with this superstitious service.

HEMEROBIUS, in zoology: A genus of insects of the neuroptera order; the characters of which are these.

Hemath
||
Hemero-
bius.

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REGIA
MONACENSIS

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Hemerocal-
lis,
Hemero-
dromi.

Plate

CCXXXIV

Barbut's
Insects.

these. The mouth is furnished with two teeth; the palpi are four; the wings are deflected, but not plaited; and the antennæ are bristly, and longer than the breast. There are 15 species, principally distinguished by their colours.—This insect takes the name of *hemerobius* from the shortness of its life, which, however, continues several days. In the state of larva it is a great devourer of plant-lice, for which it has had bestowed upon it the appellation of *lion of the plant-lice*. The hemerobii, even after their transformation, preserve their carnivorous inclination. Not satisfied with making war upon the plant-lice, who tamely let themselves be devoured, they do not spare each other. The eggs of this insect are borne upon small pedicles, which are nothing but a gum spun out by the hemerobius by raising up the hinder part of its abdomen, and by that means the egg remains fastened to the upper part of the thread. Those eggs are deposited upon leaves, and set in the form of bunches. They have been taken for parasitic plants. The larva, when hatched, finds there its food in the midst of plant-lice. In 15 or 16 days it has attained to its full growth. With its spinning-wheel at its tail, it makes itself a small, round, white, silky cod, of a close texture. In summer, at the end of three weeks, the hemerobius issues forth with its wings; but when the cod has not been spun till autumn, the chrysalis remains in it the whole winter, and does not undergo its final metamorphosis till the ensuing spring. The flight of this insect is heavy: some species have an excrementitious smell. One goes by the name of the *water-hemerobius*, because it lives mostly at the water-side.

HEMEROCALLIS, DAY-LILY, or *lily-asphodel*: A genus of the monogynia order, belonging to the hexandria class of plants; and in the natural method ranking under the 10th order, *Coronariæ*. The corolla is campanulated, with the tube cylindrical; the stamina declining downwards.

Species. 1. The flava, or yellow day-lily, hath strong fibrous roots, sending up large hollow keel-shaped leaves, two feet long, upright, leafless firm stalks, two feet high; dividing at top into several foot-stalks, each terminated by one large lilaceous yellow flower of an agreeable odour. Of this there is a variety called the *hemerocallis minor*, or small yellow day-lily. 2. The fulva, reddish, or copper-coloured day-lily, hath roots composed of strong fleshy fibres and large oblong tubes; radical, keel-shaped, hollow, pointed leaves, a yard long, reflected at top; with leafless stalks three or four feet high, and large copper-coloured lilaceous flowers. These have large stamina, charged with a kind of brown-coloured farina; which, on being touched or smelled to, is discharged in great plenty all over the hands and face.

Culture. Both these species are hardy, and will thrive any where. They may be easily propagated by parting their roots in autumn, or almost any time after flowering, or before they begin to flower.

HEMERODROMI, (compounded of *hemera* "day," and *dromos* "course," &c.) among the ancients, were centinels or guards, appointed for the security and preservation of cities and other places. They went out of the city every morning, as soon as the gates were opened, and kept all day patrolling round the place; sometimes also making excursions farther into the country,

to see that there were no enemies lying in wait to surprise them.

HEMERODROMI were also a sort of couriers among the ancients, who only travelled one day, and then delivered their packets or dispatches to a fresh man, who run his day, and so on to the end of the journey. The Greeks had of these sort of couriers, which they derived from the Persians, who were the inventors thereof, as appears from Herodotus. Augustus had the same; at least he established couriers, who, if they did not relieve each other from day to day, yet did it from space to space, and that space was not very great.

HEMEROTROPHIS, in antiquity, a measure of capacity, the same with the *choenix*. It was so called from its holding one day's food. The word is compounded of *hemera* a day, and *trophos* food.

HEMI, a word used in the composition of divers terms. It signifies the same with *semi* or *demi*, viz. "half;" being an abbreviature of *hemispheros* *hemispheros*, which signifies "the same." The Greeks retrenched the last syllable of the word *hemispheros* in the composition of words; and after their example, we have done so too in most of the compounds borrowed from them.

HEMICRANIA, in medicine, a species of cephalalgia, or head-ach; wherein only one side of the head is affected; and owing to a congestion of blood in the vessels of that half.

HEMICYCLE, **HEMICYCLUM**, compounded of *hemispheros* half, and *kyklos* circle, a semicircle.

HEMICYCLE is particularly applied, in architecture, to vaults in the cradle form; and arches or sweeps of vaults, constituting a perfect semicircle. To construct an arch of hewn stone, they divide the hemicycle into so many voussiors; taking care to make them an uneven number, that there be no joint in the middle, where the key-stone should be. See **KEY** and **BRIDGE**.

HEMICYCLUM was also a part of the orchestra in the ancient theatre. Scaliger, however, observes, it was no standing part of the orchestra; being only used in dramatic pieces, where some person was supposed to be arrived from sea, as in Plautus's *Rudens*.

The ancients had also a sort of sun-dial, called *hemicyclium*. It was a concave semicircle, the upper end or cusp whereof looked to the north. There was a style, or gnomon, issuing from the middle of the hemicycle, whereof that point corresponding to the centre of the hemicycle represented the centre of the earth; and its shadow projected on the concavity of the hemicycle, which represented the space between one tropic and another, the sun's declination, the day of the month, hour of the day, &c.

HEMIMERIS, in botany; a genus of the angiospermia order, belonging to the didynamia class of plants. The capsule is bilocular, with one of the cells more gibbous than the other: the corolla is wheel-shaped; with one division greater, and inverse heart-shaped; the interstice of the divisions nectar-bearing.

HEMINA, in Roman antiquity, a liquid measure, which, according to Arbuthnot, was equal to half a wine-pint English measure; its contents being 2.818 solid inches.

HEMIOBOLON, a weight often mentioned by the ancient writers in medicine, and expressing the half of their obolus, or the twelfth part of a dram, that is, five grains.

Hemero-
dromi
||
Hemiobo-
lon.

HEMI-

HEMIONITIS, in botany: A genus of the natural order of filices, belonging to the cryptogamia class of plants. The fructifications are in lines decussating or crossing each other.

HEMIPLEGIA, or **HEMIPLEXIA**, among physicians, a palsy of one half of the body. See (the *Index* subjoined) to **MEDICINE**.

HEMIPTERA, derived from *hēmipterus* half, and *pteron* wing, in the Linnæan system, the second order of insects, comprehending twelve genera, viz. the *blatta*, *mantis*, *gryllus*, *fulgora*, *cicada*, *notonecta*, *nepa*, *cimex*, *aphis*, *chermes*, *coccus*, and *thrips*, and a great number of species. See **ENTOMOLOGY**, **INSECTS**, and **ZOOLOGY**.

HEMISPHERE, (**HEMISPHERIUM**, compounded of *hēmipterus* half, and *sphaera* sphere, in geometry, is one half of a globe or sphere, when divided into two by a plane passing through its centre.

HEMISPHERE, in astronomy, is particularly used for one half of the mundane sphere.

The equator divides the sphere into two equal parts, called the *northern* and *southern hemispheres*. The horizon also divides the sphere into two parts, called the *upper* and the *lower hemispheres*.

HEMISPHERE is also used for a map, or projection, of half the terrestrial globe, or half the celestial sphere, on a plane. Hemispheres are frequently called *planispheres*.

HEMISTICH, in poetry, denotes half a verse, or a verse not completed.

Of this there are frequent examples in Virgil's *Æneid*; but whether they were left unfinished by design or not, is disputed among the learned: such are, *Ferro accincta vocat*, *Æn.* II. v. 614. And, *Italiam non sponte sequor*, *Æn.* IV. v. 361.

In reading common English verses, a short pause is required at the end of each hemistich or half-verse.

HEMITONE, in the ancient music, was what we now call a half note or semitone.

HEMITRITÆUS, in medicine, a kind of fever, denoting the same as semi-tertian, returning twice every day. The word is Greek, and compounded of *hēmipterus* "half," and *tertius* "third or tertian."

HEMLOCK, in botany. See **CICUTA** and **CONIUM**.

HEMOIPTOTON. See **ORATORY**, n° 77.

HEMP. See **CANNABIS**.—It does not appear that the ancients were acquainted with the use of hemp, in respect of the thread it affords. Pliny, who speaks of the plant in his natural history, lib. xx. cap. 23. says not a word of this; contenting himself with extolling the virtues of its stem, leaves, and root. In effect, what some writers of the Roman antiquities remark, viz. that the hemp necessary for the use of war was all stored up in two cities of the western empire, viz. at Ravenna and Vienne, under the direction of two procurators, called *procuratores linificii*, must be understood of linum or flax.

The use of hemp is so extensive and important, that vast quantities of it are annually imported into this and other kingdoms from those countries where it grows in greatest plenty, of which Russia is one. In the year 1763, the quantity imported into England alone amounted to 11,000 tons. Sir John Sinclair informs us, that in the year 1785, the quantity exported from Petersburg in British ships was as follows.

			[Poods.	Hemp.
Clean hemp	-	-	1,038,791	
Outshot	-	-	37,382	
Half-clean	-	-	18,374	
Hemp-codille	-	-	19,251	

1,113,798

Now, allowing 63 poods to a ton, the quantity just mentioned will amount to 17,695 tons; and supposing it to take five acres to produce a ton of hemp, the whole quantity of ground requisite for this purpose would amount to 88,475 acres.

By other accounts, the annual export of hemp to England is valued at 400,000 l.; but by a computation of the whole imported into Britain and Ireland in 1788, it would seem that a considerably greater quantity must fall to the share of England. In that year the quantity amounted to no less than 58,464 tons; which at 20l. per ton amounted to 1,269,280 l. We cannot wonder at this vast consumpt, when it is considered that the sails and cordage of a first rate man-of-war require 180,000 lb. of rough hemp for their construction; but even this will scarce account for the enormous consumpt in France, which in the year 1783 is said to have amounted to upwards of 400 millions of pounds, or 200,000 tons; of which more than one third was imported.

Only the coarser kinds of hemp are employed in making cordage, the better sorts being used for linen, which though it can never be made so fine as that from flax, is yet incomparably stronger, and equally susceptible of bleaching both in the old and new way. Cloths made of hemp have also this property, that their colour improves by wearing, while that of linen decays. The prices of hemp linen are various; from 10d. to 4s. 6d. per yard. The low-priced kinds are very generally worn in Suffolk (where hemp is cultivated) by husbandmen, servants, &c. those from 1s. 6d. to 2s. by farmers and tradesmen; and those from 2s. 6d. to 4s. 6d. are frequently preferred by gentlemen to flax-linen, on account of their strength and warmth. The English hemp is much superior in strength to that which grows in any other country. Next to it is the Russian, from which sackings are usually made, as it is sometimes also from the offal of the English kind, but none of the Suffolk hemp is ever made into cordage, on account of its fineness. A considerable quantity of Russia sheeting is imported into England merely on account of its strength, and is much coarser at the price than any other foreign linen.

Besides these uses of hemp, it is said to possess a property as a plant which renders it almost invaluable; viz. that of driving away almost all insects that feed upon other vegetables. Hence in some places of the continent they secure their crops from these mischievous attacks, by sowing a belt of hemp round their gardens, or any particular spot which they wish to preserve.

The important uses of hemp, and the superiority of that produced in Britain to other kinds, have rendered the culture of it an object of attention to government. Accordingly in the year 1787, a bounty of threepence per stone was allowed on all the hemp raised in England; and probably with a view to encourage the growth of English hemp, duties have been laid on

Hemp. that which comes from abroad. Dressed hemp in a British ship pays 2l. 4s. per cwt. import duty; in a foreign one 2l. 6s. 9d.; and in both cases a drawback of 1l. 19s. is allowed. Undressed hemp in a British ship pays 3s. 8d.; and in a foreign one 3s. 11d. In both cases the drawback is 3s. 4d. The export of British hemp is free.

The usual height of the plant when growing is from five to six feet, but this varies very considerably according to circumstances. That which is cultivated near Bischwiller in Alsace is sometimes more than 12 feet high, and upwards of three inches in circumference, the stalks being so deeply rooted that a very strong man can scarce pull them up. Mr Arthur Young, in a tour through Catalonia in Spain, says, that where the country is well watered, the crops of hemp are extraordinary; and that the plants generally rise to the height of seven feet. In Italy hemp is generally cultivated, though the Bolognese only can pretend to any superiority in the management of it. It is there sown upon their best lands, which are rich strong loams; and on which they are at all possible pains to procure a fine friable surface. For manure they use dung, pieces of rotten cloth, feathers, and horns brought from Dalmatia. The plant, however, may be cultivated upon ground of every kind; the poorer land producing that which is finer in quality though in smaller quantity; whereas strong and rich land produces a great quantity, but coarser. It does not exhaust the land on which it grows like flax, whence it is probable, that if properly managed, and care taken in the cultivation, it might be found to supersede flax entirely. A Sussex manufacturer, who writes on this subject in the Annals of Agriculture, informs us, that it may be raised for many years successively on the same ground, provided it be well manured. An acre requires from nine to twelve pecks, according to the nature of the soil; the latter being the most usual, though a variation in the quality of the soil makes an alteration both in the quantity and quality of the hemp. An acre produces on an average 36 or 38 stone. The abbé Brulle, in a Treatise upon the Culture and Management of Hemp, printed by order of the lords of the committee of council for trade and foreign plantations, informs us, that the season for sowing it extends from the 25th of March to the 15th of June. The seed ought always to be sown thin, not exceeding two bushels to an acre; and if you have the advantage of a drill plough, still less will answer. As there are two kinds of hemp, the male and female, of which the former only produces seed, some regard must be had to this circumstance. In Sussex the male and female are pulled together about 13 weeks after the sowing, but in the fens they are frequently separated. This last method is recommended by the abbé Brulle, who, for the more easy accomplishment of it, directs that little paths should be made lengthwise through the field at about seven feet distance from each other, to allow a passage for the person who pulls up the female hemp from among the other; the latter requiring to stand more than a month after for the purpose of ripening the seeds. The female hemp is known to be ripe by the fading of the flowers, the falling of the farina fecundans, and some of the stalks turning yellow. After the whole of this kind is pulled, it must

be manufactured according to the directions to be afterwards given, and ought to be worked if possible while green; the hemp thus produced being much finer than that which is previously dried. The reason of this is, that the plant contains a great quantity of glutinous matter; which being once dried, agglutinates the fibres in such a manner that they can never be afterwards perfectly separated. The female hemp, however, is always in smaller quantity than the male; and therefore where the crop is large, it will be impossible to work the whole as fast as it is pulled or cut. It is known to be ripe by the stems becoming pale; but it must be remembered, that hemp of any kind will be much less injured by pulling the plants before they are ripe than by letting them stand too long.

The male hemp being stripped of its leaves, &c. as afterwards directed, will soon be dry for storing by the heat of the atmosphere, though sometimes it may be necessary to use artificial means; but where these are used, the utmost care must be taken, hemp when dry being exceedingly inflammable. The stored or dried hemp must be steeped and treated in every other respect as though it had been green; whence it is evident that this operation ought never to be used but in cases of necessity. It is likewise impossible to make hemp which has been dried previous to its being steeped so white as that which has been worked green.

With regard to the perfecting of hemp-seed for a *Mill's Haff* subsequent season, it would seem proper to set apart a *bandry*, vol. v. piece of ground for this purpose; for M. Aimen, from 40 plants raised in the common way, had only a pound and an half of seed, though the plants from which it was taken might be deemed fine; whereas, from a single plant which grew by itself, he had seven pounds and an half. Some are of opinion, that by putting the clusters which contain the hemp-seed to heat and sweat, the quality is improved; as many of those seeds which would otherwise wither and die, may thus arrive at perfection. This, however, seems to be very problematical; as there are no experiments which show that seeds, when separated from the vegetable producing them have any power of meliorating themselves.

After the hemp is pulled, it must be taken in large handfuls, cutting off the roots (though this is not absolutely necessary), the leaves, seeds, and lateral branches, being dressed off with a wooden sword or ripple. It is then to be made up into bundles of twelve handfuls each, in order to be steeped, like flax, in water. This, or something similar, is absolutely necessary, in order to separate the bark; which is properly the hemp, from the reed or woody part. In Suffolk, this operation is called *water-retting*; but sometimes a mere exposure to the air is substituted in its place, turning the hemp frequently during the time it is exposed. This is called *dew-retting*; but the former method is universally deemed preferable. Such hemp as is designed for seed is seldom water-retted, though in the opinion of the manufacturer already quoted, it would be better if it were so. Dew-retted hemp is generally stacked and covered during the winter; in January and February it is spread upon meadow land, and whitens with the frost and snow; though it is always much inferior to the other, and proper for coarser yarns only.

The length of time required for steeping hemp is various,

Hemp.

Hemp. various, and a complete knowledge of it can only be attained by practice. In Suffolk it is usual to continue the immersion four, five, or six days; standing water is preferred, and the same water will steep hemp three times during the season, but the first has always the best colour. The abbé Brulle prefers clear and running water, especially if overhung with trees. The bundles are to be laid crosswise upon each other, taking particular notice of the manner in which they lie when put in, that they may be taken out without difficulty. His time of steeping is from six to 11 days; and here we must observe, that it is much better to let it remain too long in the water than too short a time. The slenderest hemp requires the most soaking. The operation is known to be finished by the reed separating easily from the bark.

After the hemp is thoroughly steeped, the next operation is to separate the bark from the reed or woody part; and this may be done in two ways, *viz.* either pulling out the reed from every stalk with the hand, or drying and breaking it like flax. The abbé Brulle is very particular in his directions for this last operation, which he calls *reeding*, and which may be performed either in a trough under water or upon a table. The whole, however, may be reduced to the following, *viz.* pressing down the bundles either in the trough or on a table by proper weights, to keep the hemp steady on the middle and top end. Then beginning at the upper part of the bundle, pull out the reeds one by one. As you proceed, the rind which remains will press closely upon the remaining unreeded hemp, and keep it more steady; so that you may take two, four, or even six stalks, at a time. The weight is then to be removed from the top, and all the pieces of reed which remain there having broken off in the former operation, are to be taken out. Lastly, the middle weight is to be taken off, and any small pieces which remain there taken out. If the reeding is performed on a table, the bundle must be weeded frequently, though slightly; a continual dropping of water would perhaps be the best method.

After the hemp is reeded, it must next be freed from the mucilaginous matter with which it still abounds. This is done by pouring water through it, squeezing out the liquid after every affusion, but taking care not to let the threads twist or entangle each other, which they will be very apt to do. The abbé is of opinion, that soft soap should be dissolved in the last water, in the proportion of an ounce to three pounds of dry hemp; which though not absolutely necessary, contributes much to the softening and rendering the hemp easy and pleasant to dress.

Hemp is broken by machinery, after being steeped, in a manner similar to flax; but the instruments used for this purpose in Suffolk are all worked by the hand. That which breaks in the operation is called *shorts*, and is about half the value of the long hemp. The best water-retted hemp sells for about 8s. 6d. per stone; the other kind from one to two shillings lower.

Beating of hemp is the next operation, which formerly was performed entirely by hand, but now in most places by a water-mill, which raises three heavy beaters that fall upon it alternately; the hemp being turned all the while by a boy in order to receive the strokes equally. The finer it is required to make the

tow, the more beating is necessary. It is then dressed or combed by drawing it through heckles formed like the combs of wool-manufacturers, only fixed. Sometimes it is divided into two or three sorts of tow, and sometimes the whole is worked together into one sort; the prices varying from 6d. to 1s. 6d. per pound.

The hemp thus manufactured is sold to spinners, who reel their yarn as follows.

2 Yards make	-	1 thread.
40 Threads	-	1 lea.
20 Leas	-	1 skain.
3 Skains	-	1 clue of 4800 yards.

It is next delivered to the bleachers, who return it bleached on receiving 20 or 21 clues for every 120 bleached. The prices of the hemp-yarn are as follow:

1 Clue from a pound	-	7d. or 6½d.
1½ from do.	-	8½d. or 8d.
2 from do.	-	9½d. or 9d.
2½ from do.	-	10½d. or 10d.
3 from do.	-	12d.

Chinese HEMP, a newly discovered species of Cannabis, of which an account is given in the 72d volume of the Philosophical Transactions p. 46. In that paper Mr Fitz-Gerald, vice president of the society for encouraging arts, mentions his having received the seeds from the late Mr Elliot; which being sown, according to his directions, produced plants 14 feet high, and nearly seven inches in circumference. These being pulled up in November, and steeped for a fortnight in water, were placed against a southern wall to dry. After this the hemp was found to separate easily from the woody part; and so great was the produce, that 32 plants yielded three pounds and a quarter. In consequence of this success, Mr Fitzgerald applied to the directors of the India company to procure some of the seeds from China; which being complied with, the society were furnished, in 1785, with some more of the seeds, which were distributed to several of the members; but, notwithstanding their endeavours, few of the plants appear to have ripened their seeds in this country. Two of the species of hemp, tried by the duke of Northumberland, rose to the height of 14 feet seven inches, and would have been much larger, had they not been hurt by an high wind: another kind arose only to that of three feet and an half, the stem about the size of a common wheat straw; but though it flowered well, did not produce any seed. These kinds were sown in an hot-bed where the heat was very strong, on the 14th of April. They appeared above ground in four days, and were transplanted into pots on the 25th. They were then put under an hot-bed frame where the heat had been gone off, to harden them for the natural ground, in which they were planted on the 30th, by turning them whole out of the pots; letting them, three together, be planted at two feet distance every way; covering them at times for about ten days, until they were supposed to be rooted. Only a few seeds were preserved from plants which had been kept constantly in a stove.

Other trials were attended with little better success; but, in 1786, the Rev. Dr Hinton of Northwold near Brandon, made a successful experiment with some seeds he received from the secretary of the society. They were sown on the 17th of May, and appeared

Hemp.

Hemp appeared on the 6th of June. The plants were few and sickly; and notwithstanding some fine showers, they continued to languish so much that the experiment was entirely abandoned, and buckwheat was harrowed into the ground for a fallow crop. In the beginning of October, however, the persons employed in cutting the buck-wheat discovered some seed in the heads of a few straggling hemp plants which had been suffered to grow in the crop; which being carefully threshed, afforded three pints of seed tolerably bright and heavy. These seeds were sown on the 10th of May 1787. On the 19th they appeared above the ground numerous and healthy. The male hemp was drawn on the 13th of August, but the female not till the 9th of October; the spot on which the plants were sown measured only 322 square yards, and produced of marketable hemp no less than 95 stone 7 pounds 12 ounces; being upwards of one third more than the best crops of English hemp are ever known to produce. Thus it appeared, that the seeds of the Chinese hemp had retained their superiority over those of the English; though how long they would continue to do so cannot be determined but by experience. For this experiment Dr Hinton received a silver medal from the society. Few of the seeds either of Chinese, or any other hemp, will vegetate if two years old at the time of sowing; and to this circumstance the Doctor attributes the failure of other trials of Chinese hemp.

HEMP-Agrimony, a species of eupatorium. See EUPATORIUM.

HEMPSTEAD, a town of Hartfordshire in England, stands among hills, upon a small river called the Gade, and is seven miles to the west of St Alban's, five miles south-east of Berkhamsted, and 20 north-west of London. The church has a handsome tower with a tall spire, and a good ring of bells. It was, in the time of the Saxons, called by the name of Henamsted, or Hean-Hemsted, i. e. High-Hemstead. In William the Conqueror's time, by the name of Hemelamstede. Henry VIII. incorporated this village by the name of a bailiff; and he empowered the inhabitants to have a common-seal, and a pye-powder court during its market and fairs. It has been reckoned one of the greatest markets for wheat in this county, if not in England, 20,000 l. a week being often returned in it only for meal. Eleven pair of mills stand within four miles of the place, which bring a great trade to it; but the road is thereby so continually torn, that it is one of the worst turnpike ways to London.

HEMSKERCK (Egbert), called the *Old*, a celebrated Flemish painter of drolls and conversations, of whom, though so universally known, we have no information as to the time in which he flourished, or the school in which he was taught. Though the taste of his compositions is but low, yet it ought to be considered that he took his subjects from nature; from persons in the meanest occupations, whose dress, actions, and manners, could not furnish the imagination with any ideas of elegance: and to express their passions and undisguised humours, seems to have been the utmost of his ambition. By frequenting fairs, merry-meetings, gaming-houses, and inns, he acquired a surprising power of connecting humorous circumstances.

He designed and drew correctly, and his pictures have Hemskreck a strong effect from his accurate management of the chiaro oscuro. Some of his pictures have suffered from unskilful cleaners, and many things are sold as his which dishonour him; but his genuine works, well preserved, have a clearness and force equal to any of the Flemish artists.

HEMSKERCK (Egbert), called the *Young*, was the disciple of Peter Grebber, but imitated the manner of Brouwer and of the elder Hemskerck. He was born at Haerlem in 1645, but settled at London, where for a long time his works were exceedingly esteemed, though they are now much sunk in their value. He had a whimsical imagination, and delighted in composing uncommon and fanciful subjects; such as the temptation of St Anthony, nocturnal intercourses of witches and spectres, enchantments, &c. which he executed with a free pencil and a spirited touch. It was customary with him to introduce his own portrait among the conversations he designed; and for that purpose had a small looking-glass placed near his case. He died in 1704.

HEN, in ornithology. See PHASIANUS.

Guinea-HEN. See NUMIDA.

HEN-Bane. See HYOSCIANUS.

HEN-Harrier. See FALCO.

HEN-Mould-soil, in agriculture, a term used by the husbandmen in Northamptonshire, and other counties, to express a black, hollow, spongy, and mouldering earth, usually found at the bottoms of hills. It is an earth much fitter for grazing than for corn, because it will never settle close enough to the grain to keep it sufficiently steady while it is growing up, without which, the farmers observe, it either does not grow well; or, if it seem to thrive, as it will in some years, the growth is rank, and yields much straw, but little ear. It is too moist, and to that is principally to be attributed this rankness of the crop in some years; and the occasion of its retaining so much moisture is, that it usually has a bed of stiff clay, which will not let the water run off into the under strata.

In some places they also give this name to a black, rich, and dense earth, with streaks of a whitish mould in many parts. This sort of hen-mould is usually found very rich and fertile.

HENAULT (Charles John Francis), was son of John Remi Henault lord of Mouffy, and born at Paris in 1685. He early discovered a sprightly benevolent disposition, and his penetration and aptness soon distinguished itself by the success of his studies. Claude de Lisle, father of the celebrated geographer, gave him the same lessons in geography and history which he had before given to the duke of Orleans afterwards regent; and which have been printed in seven volumes, under the title of "Abridgment of Universal History." On quitting college, Henault entered the Oratory, where he soon attached himself to the study of eloquence: and, on the death of the Abbé Rene, reformer of La Trappe, he undertook to pronounce his panegyric; which not meeting the approbation of father Maffilon, he quitted the Oratory after two years, and his father bought for him, of marechal Villeroi, the "lieutenance des chasses," and the government of Corbeil. At the marshal's he formed connections, and even intimate friendships, with many of the nobility,

Henault. and passed the early part of his life in agreeable amusements, and in the liveliest company, without having his religious sentiments tainted. He associated with the wits till the dispute between Rousseau and de la Motte soon gave him a disgust for these trifling societies. In 1707, he gained the prize of eloquence at the French Academy; and another next year at the academy des jeux Floraux. About this time M. Reaumur, who was his relation, came to Paris, and took lessons in geometry under the same master, Guinée. Henault introduced him to the Abbé Bignon, and this was the first step of his illustrious course. In 1713 he brought a tragedy on the stage, under the disguised name of Fuselier. As he was known to the public only by some slighter pieces, "Cornelia the Vestal" met with no better success. He therefore locked it up without printing. In his old age his passion for these subjects reviving, and Mr Horace Walpole being at Paris in 1768, and having formed a friendship with him as one of the most amiable men of his nation, obtained this piece, and had it printed at a press which he had at his country seat, from whence a beautiful edition of Lucan had before issued. In 1751 M. Henault, under a borrowed name, brought out a second tragedy, intitled, "Marius," which was well received and printed. He had been admitted counsellor in parliament in 1706, with a dispensation on account of age; and in 1710 president of the first chamber of inquests. These important places, which he determined to fill in a becoming manner, engaged him in the most solid studies. The excellent work of M. Domat charmed him, and made him eager to go back to the fountain head. He spent several years in making himself master of the Roman law, the ordonnances of the French king, their customs, and public law. M. de Morville, procureur-general of the great council, being appointed ambassador to the Hague in 1718, engaged M. Henault to accompany him. His personal merit soon introduced him to the acquaintance of the most eminent personages at that time there. The grand pensionary, Heinsius, who, under the exterior of Lacedæmonian simplicity, kept up all the haughtiness of that people, lost with him all that hauteur which France itself had experienced from him in the negotiations of the treaty of Utrecht. The agitation which all France felt by Law's system, and the consequent sending of the parliament into exile, was a trial to the wise policy of the president Henault. His friendship for the first president, De Mesmes, led him to second all the views of that great magistrate: he took part in all the negotiations, and was animated purely by the public good, without any private advantage. On the death of the cardinal du Bois, in 1723, he succeeded in his place at the French Academy. Cardinal Fleury recommended him to succeed himself as director, and he pronounced the eulogy of M. de Malezieux.

History was M. Henault's favourite study; not a bare collection of dates, but a knowledge of the laws and manners of nations; to obtain which he drew instruction from private conversations, a method he so strongly recommends in his preface. After having thus discussed the most important points of our public law, he undertook to collect and publish the result of his inquiries, and he is deservedly accounted the first framer of chronological abridgements; in which, without stopping at detached

facts, he attends only to those which form a chain of events that perfect or alter the government and character of a nation, and traces only the springs which exalt or humble a nation, extending or contracting the space it occupies in the world. His work has had the fortune of those literary phenomena, where novelty and merit united excite minds eager after glory, and fire the ardour of young writers to press after a guide whom few can overtake. The first edition of the work, the result of 40 years reading, appeared in 1744, under the auspices of the chancellor Daguesseau, with the modest title of an *Essay*. The success it met with surprised him. He made continual improvements in it, and it has gone through nine editions, and been translated into Italian, English, and German, and even into Chinese. As the best writings are not secure from criticism, and are indeed the only ones that deserve it, the author read to the academy of Belles Lettres a defence of his abridgement. All the ages and events of the French monarchy being present to his mind, and his imagination and memory being a vast theatre whereon he beheld the different movements and parts of the actors in the several revolutions, he determined to give a specimen of what past in his own mind, and to reduce into the form of a regular drama, one of the periods of French history, the reign of Francis II. which, though happy only by being short, appeared to him one of the most important by its consequences, and most easy to be confined within the stage bounds. His friend the chancellor highly approved the plan, and wished it to be printed. It accordingly went through five editions; the harmony of dates and facts is exactly observed in it, and the passions interested without offence to historic truth.

In 1755, he was chosen an honorary member of the academy of Belles Lettres, being then a member of the academies of Nanci, Berlin, and Stockholm. The queen appointed him superintendant of her house. His natural sprightliness relieved her from the serious attendance on his private morning lectures. The company of persons most distinguished by their wit and birth, a table more celebrated for the choice of the guests than its delicacies, the little comedies suggested by wit, and executed by reflections, united at his house all the pleasures of an agreeable and innocent life. All the members of this ingenious society contributed to render it agreeable, and the president was not behind any. He composed three comedies: *La Petite Maison*, *La Jaloux de Soi meme*, and *Le Reveil d'Epimenide*. The subject of the last was the Cretan philosopher, who is pretended to have slept 27 years. He is introduced fancying that he had slept but one night, and astonished at the change in the age of all around him: he mistakes his mistress for his mother; but discovering his mistake, offers to marry her, which she refuses, though he still continues to love her. The queen was particularly pleased with this piece. She ordered the president to restore the philosopher's mistress to her former youth: he introduced Hebe, and this episode produced an agreeable entertainment. He was now in such favour with her majesty, that on the place of superintendant becoming vacant by the death of M. Bernard de Conbert master of requests, and the sum he had paid for it being lost to his family, Henault solicited it in favour of several persons, till at last the

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Henley.

queen bestowed it on himself, and consented that he should divide the profits with his predecessor's widow. On the queen's death he held the same place under the dauphiness.

A delicate constitution made him liable to much illness; which, however, did not interrupt the serenity of his mind. He made several journeys to the waters of Plombières: in one of these he visited the deposed king Stanislaus at Luneville; and in another accompanied his friend the marquis de Pauliny, ambassador to Switzerland. In 1763 he drew near his end. One morning, after a quiet night, he felt an oppression, which the faculty pronounced a suffocating cough. His confessor being sent to him, he formed his resolution without alarm. He has since said, that he recollected having then said to himself, "What do I regret?" and called to mind that saying of Madame de Sevigne, "I leave here only dying creatures." He received the sacraments. It was believed the next night would be his last; but by noon next day he was out of danger. "Now (said he) I know what death is. It will not be new to me any more." He never forgot it during the following seven years of his life, which, like all the rest, were gentle and calm. Full of gratitude for the favours of Providence, resigned to its decrees, offering to the Author of his being a pure and sincere devotion; he felt his infirmities without complaining, and perceived a gradual decay with unabated firmness. He died Dec. 24. 1771, in his 86th year. He married in 1714 a daughter of M. le Bas de Montargis keeper of the royal treasure, &c. who died in 1728 without leaving any issue.

HENDECAGON, in geometry, a figure that hath eleven sides and as many angles.

HENED-PENNY, in our old writers, a customary payment of money instead of hens at Christmas. It is mentioned in a charter of king Edward III. Mon. Angl. tom. ii. p. 327. Du-Cange is of opinion it may be *hen-penny*, *gallinagium*, or a composition for eggs; but Cowel thinks it is misprinted *hened-penny* for *heved-penny*, or *head-penny*.

HENLEY, a town of Oxfordshire in England, seated on the river Thames, over which there is a handsome bridge. It sends malt, corn, and other things, to London in barges. W. Long. o. 40. N. Lat. 51. 34.

HENLEY, a town of Warwickshire in England, seated on the river Alne, in W. Long. 1. 45. N. Lat. 52. 18.

HENLEY (John), better known by the appellation of *Orator Henley*, a very singular character, was born at Melton-Moubray, Leicestershire, in 1691. His father, the Rev. Simon Henley, and his grandfather by his mother's side (John Dowel, M. A.), were both vicars of that parish. Having passed his exercises at Cambridge, and his examination for the degree of B. A. with the particular approbation of Mr Field, Mr Smales, and the master of the college, he returned to his native place, where he was first desired by the trustees of the school in Melton to assist in, and then to take the direction of that school; which he increased and raised from a declining to a flourishing condition. He established here a practice of improving elocution by the public speaking of passages in the classics, morning and afternoon, as well as orations, &c. Here he was invited

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by a letter from the Rev. Mr Newcombe to be a candidate for a fellowship in St John's; but as he had long been absent, and therefore lessened his personal interest, he declined appearing for it. Here likewise he began his "Universal Grammar," and finished ten languages, with dissertations prefixed, as the most ready introduction to any tongue whatever. In the beginning of this interval he wrote his poem on "Esther," which was approved by the town, and well received. He was ordained a deacon by Dr Wake, then bishop of Lincoln; and after having taken his degree of M. A. was admitted to priest's orders by Dr Gibson, his successor in that see. He formed an early resolution to improve himself in all the advantages of books and conversation the most effectually, on the first opportunity, at London. But he laid the basis of future proficiency in assisting at the curacy of his native town; where he preached many occasional sermons, particularly one at the assizes at Leicester: he then gave a voluntary warning for the choice of a new master and curate, and came to town recommended by above 30 letters from the most considerable men in the country, both of the clergy and laity; but against the inclination of his neighbours and his school, which was now, as from his first entrance upon it, still advancing: and his method being established and approved, one of his own scholars was appointed to succeed him.—In town he published several pieces, as a translation of Pliny's Epistles, of several works of Abbé Vertot, of Montfaucon's Italian Travels in folio, and many other lucubrations. His most generous patron was the earl of Macclesfield, who gave him a benefice in the country, the value of which to a resident would have been above 80 l. a-year; he had likewise a lecture in the city; and preached more charity-sermons about town, was more numerously followed, and raised more for the poor children, than any other preacher, however dignified or distinguished. But when he pressed his desire and promise from a great man of being fixed in town, it passed in the negative. He took the people (it seems) too much from their parish-churches; and as he was not so proper for a London divine, he was very welcome, notwithstanding all difficulties, to be a rural pastor. But it was not for a second rustication, as he informs us†, that he left the fields and the swains of Arcadia to visit the great city: and as he knew it was as lawful to take a licence from the king and parliament at Hicks's-hall as at Doctors Commons (since the ministerial powers of this kingdom are and ought to be parliamentary only), he freely, without compulsion, or being desired or capable of being compelled to reside in the country, gave up his benefice and lecture, certainties for an uncertainty; believing the public would be a more hospitable protector of learning and science, than some of the upper world in his own order.

Mr Henley, in answer to a cavil (that he borrowed from books), proposed, "that if any person would single out any celebrated discourse of an approved writer, dead or living, and point out what he thought excellent in it, and the reasons; he would submit it to the world, whether the most famed composition might not be surpassed in their own excellency, either on that or any different subject."

Henley preached on Sundays upon theological matters, and on Wednesdays upon all other sciences. He declaimed

Henley.

† *Oratory Transact.*
P. 12, &c.

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declaimed some years against the greatest persons, and occasionally, says Warburton, did Pope that honour. The poet in return thus blazons him to infamy :

" But, where each science lifts its modern type,
" History her pot, Divinity his pipe,
" While proud Philosophy repines to show,
" Dishonest fight! his breeches rent below;
" Imbrown'd with native bronze, lo Henley stands,
" Tuning his voice, and balancing his hands.
" How fluent nonsense trickles from his tongue!
" How sweet the periods, neither said nor sung!
" Still break the benches, Henley! with thy strain,
" While Kennet, Hare, and Gibson preach in vain.
" O great restorer of the good old stage,
" Preacher at once and Zany of thy age!
" O worthy thou of Ægypt's wife abodes,
" A decent priest where monkies were the gods!
" But Fate with butchers plac'd thy priestly stall,
" Meek modern faith to murder, hack, and maul:
" And bade thee live to crown Britannia's praise,
" In Toland's, Tindal's, and in Woolston's days."

This extraordinary person (who died October 14. 1756) struck medals, which he dispersed as tickets to his subscribers: a star rising to the meridian, with this motto, *Ad summa*; and below, *Inveniam viam, aut faciam*. Each auditor paid 1 s. He was author of a weekly paper called *The Hyp Doctor*, for which he had 100l. a year given him. Henley used every Saturday to print an advertisement in the *Daily Advertiser*, containing an account of the subjects he intended to discourse on the ensuing evening at his oratory near Lincoln's-inn-fields, with a sort of motto before it, which was generally a sneer at some public transaction of the preceding week. Dr Cobden, one of Geo. II.'s chaplains, having, in 1748, preached a sermon at St James's from these words, "Take away the wicked from before the king, and his throne shall be established in righteousness;" it gave so much displeasure, that the Doctor was struck out of the list of chaplains; and the next Saturday the following parody of his text appeared as a motto to Henley's advertisement:

" Away with the wicked before the king,
" And away with the wicked behind him;
" His throne it will bless
" With righteousness,
" And we shall know where to find him."

His audience was generally composed of the lowest ranks; and it is well known that he even collected an infinite number of shoe-makers, by announcing that he could teach them a speedy mode of operation in their business, which proved only to be, the making of shoes by cutting off the tops of ready-made boots.

HENNA, or ALHENNA. See LAWSONIA.

HENNEBERG, a county of Germany, in the circle of Franconia. It is bounded on the north by Thuringia, on the west by Hesse, on the south by the bishoprick of Wertsburg, and on the east by that of Bamberg. It abounds in mountains and woods; and it is populous, and pretty fertile. Mainingen is the capital town.

HENNEBERG, a town of Germany, in the circle of Franconia, which gives title to a county of the same name with a castle. E. Long. 9. 17. N. Lat. 50. 40.

HENNEBON, a town of France in Bretagne, in the diocese of Vannes. It is inhabited by rich merchants, and is seated on the river Blavet, in W. Long. 2. 13. N. Lat. 47. 48.

HENOTICUM, (ΗΝΟΤΙΚΟΝ, q. d. "reconciliative;" of 1900 "I unite"), in church history, a famous edict of the emperor Zeno, published A. D. 482, and intended

to reconcile and reunite the Eutychians with the Catholics. It was procured of the emperor by means of Acacius, patriarch of Constantinople, with the assistance of the friends of Peter Mongus and Peter Trullo. The sting of this edict lies here; that it repeats and confirms all that had been enacted in the councils of Nice, Constantinople, Ephesus, and Chalcedon, against the Arians, Nestorians, and Eutychians, without making any particular mention of the council of Chalcedon. It is in form of a letter, addressed by Zeno to the bishops, priests, monks, and people of Egypt and Libya. It was opposed by the catholics, and condemned in form by pope Felix II.

HENRICIANS, in ecclesiastical history, a sect so called from Henry its founder, who, though a monk and hermit, undertook to reform the superstition and vices of the clergy. For this purpose he left Lausanne in Switzerland, and removing from different places, at length settled at Tholouse in the year 1147, and there exercised his ministerial function, till being overcome by the opposition of Bernard abbot of Clairval, and condemned by pope Eugenius III. at a council assembled at Rheims, he was committed to a close prison in 1148, where he soon ended his days. This reformer rejected the baptism of infants; severely censured the corrupt manners of the clergy; treated the festivals and ceremonies of the church with the utmost contempt, and held clandestine assemblies for inculcating his peculiar doctrines.

HENRY, or CAPE-HENRY, the south cape of Virginia, at the entrance of Chesapeak-bay. W. Long. 74. 50. N. Lat. 37. 0.

HENRY, the name of several emperors of Germany, and kings of England and France. See ENGLAND, FRANCE, and GERMANY.

HENRY IV. emperor of Germany in 1056, styled *the Great*, was memorable for his quarrels with pope Gregory II. whom at one time he deposed, for having presumed to judge his sovereign; but at another, dreading the effects of the papal anathemas, he had the weakness to submit to the most humiliating personal solicitations and penances to obtain absolution; which impolitic measure increased the power of the Pope, and alienated the affections of his subjects: thus circumstanced, he reassumed the hero, but too late; marched with an army to Rome, expelled Gregory, deposed him, and set up another pope. Gregory died soon after; but Urban II. and Pascal II. successively, excited his ambitious sons, Conrad and Henry, to rebel against him, and the latter was crowned emperor by the title of Henry V. in 1106; and he had the inhumanity to arrest his father, and to deprive him, not only of all his dignities, but even of the necessities of life. The unfortunate Henry IV. was reduced to such extremities (after having fought 62 battles in defence of the German empire), that he solicited the bishop of Spire to grant him an underchaunter's place in his cathedral, but was refused. He died the same year at Liege, aged 55, a martyr to the ignorance and superstition of the age, and to his own blind confidence in favourites and mistresses.

HENRY IV. king of France (in 1589) and Navarre, justly styled *the Great*, was the son of Anthony de Bourbon, chief of the branch of Bourbon (so called from a fief of that name which fell to them by marriage with the heiress of the estate). His mother was

Henry. the daughter of Henry d'Albert, king of Navarre; a woman of a masculine genius; intrepid, simple, and rustic in her manners, but deeply versed in politics, and a zealous Protestant. Foreseeing that her party would want such a protector (for her husband was a weak indolent prince), she undertook the care of the education of the young hero: his diet was coarse; his clothes neat, but plain; he always went bare-headed; she sent him to school with the other children of the same age, and accustomed him to climb the rocks and neighbouring mountains, according to the custom of the country. He was born in 1553; and in 1569, the 16th year of his age, he was declared the Defender and Chief of the Protestants at Rochelle. The peace of St Germain, concluded in 1570, recalled the lords in the Protestant interest to court; and in 1572 Henry was married to Margaret de Valois, sister to Charles IX. king of France. It was in the midst of the rejoicings for these nuptials that the horrid massacre of Paris took place. Henry was reduced, by this infernal stroke of false policy, to the alternative of changing his religion or being put to death: he chose the former, and was detained prisoner of state three years. In 1587 he made his escape; put himself at the head of the Huguenot party, exposing himself to all the risks and fatigues of a religious war, often in want of the necessaries of life, and enduring all the hardships of the common soldier: but he gained a victory this year at Courtras, which established his reputation in arms, and endeared him to the Protestants. On the death of Henry III. religion was urged as a pretext for one half of the officers of the French army to reject him, and for the leaguers not to acknowledge him. A phantom, the cardinal de Bourbon, was set up against him; but his most formidable rival was the duke de Mayenne: however, Henry, with few friends, fewer important places, no money, and a very small army, supplied every want by his activity and valour. He gained several victories over the duke; particularly that of Ivry in 1590, memorable for his heroic admonition to his soldiers: "If you love your ensigns, rally by my white plume, you will always find it in the road to honour and glory." Paris held out against him, notwithstanding his successes; he took all the suburbs in one day; and might have reduced the city by famine, if he had not humanely suffered his own army to relieve the besieged; yet the bigotted friars and priests in Paris all turned soldiers, except four of the Mendicant order; and made daily military reviews and processions, the sword in one hand and the crucifix in the other, on which they made the citizens swear rather to die with famine than to admit Henry. The scarcity of provisions in Paris at last degenerated to an universal famine; bread had been sold, whilst any remained, for a crown the pound, and at last it was made from the bones of the charnel-house of St Innocents; human flesh became the food of the obstinate Parisians, and mothers ate the dead bodies of their children. In fine, the duke of Mayenne, seeing that neither Spain nor the league would ever grant him the crown, determined to assist in giving it to the lawful heir. He engaged the states to hold a conference with the chiefs of both parties; which ended in Henry's abjuration of the Protestant religion at St Dennis, and his consecration at Chartres in 1593. The following year Paris opened its gates to him; in

1596, the duke of Mayenne was pardoned; and in 1598, peace was concluded with Spain. Henry now showed himself doubly worthy of the throne, by his encouragement of commerce, the fine arts, and manufactures, and by his patronage of men of ingenuity and sound learning of every country: but though the fermentations of Romish bigotry were calmed, the leaven was not destroyed; scarce a year passed without some attempt being made on this real father of his people; and at last the monster Ravaillac stabbed him to the heart in his coach, in the streets of Paris, on the 14th of May 1610, in the 57th year of his age and 22d of his reign.

HENRY VIII. king of England, was the second son of Henry VII. by Elizabeth the eldest daughter of Edward IV. He was born at Greenwich, on the 28th of June 1491. On the death of his brother Arthur, in 1502, he was created prince of Wales; and the following year betrothed to Catharine of Aragon, prince Arthur's widow, the Pope having granted a dispensation for that purpose. Henry VIII. acceded to the throne, on the death of his father, the 22d of April 1509, and his marriage with Catharine was solemnized about two months after. In the beginning of his reign he left the government of his kingdom entirely to his ministers; and spent his time chiefly in tournaments, balls, concerts, and other expensive amusements. We are told that he was so extravagant in his pleasures, that, in a very short time, he entirely dissipated 1,800,000l. which his father had hoarded. This will seem less wonderful, when the reader is informed, that gaming was one of his favourite diversions. Nevertheless he was not so totally absorbed in pleasure, but he found leisure to sacrifice to the resentment of the people two of his father's ministers, Empson and Dudley. A house in London, which had belonged to the former of these, was in 1510 given to Thomas Wolsey, who was now the king's almoner, and who from this period began to insinuate himself into Henry's favour. In 1513, he became prime minister, and from that moment governed the king and kingdom with absolute power. In this year Henry declared war against France, gained the battle of Spurs, and took the towns of Terouenne and Tournay; but before he embarked his troops, he beheaded the earl of Suffolk, who had been long confined in the tower. In 1521, he sacrificed the duke of Buckingham to the resentment of his prime minister Wolsey, and the same year obtained from the Pope the title of *Defender of the Faith*.

Henry, having been 18 years married, grew tired of his wife, and in the year 1527 resolved to obtain a divorce; but after many fruitless solicitations, finding it impossible to persuade the Pope to annul his marriage with Catharine, he espoused Ann Bullen in the year 1531. During this interval his favourite Wolsey was disgraced, and died; Henry threw off the Papal yoke, and burnt three Protestants for heresy. In 1535, he put to death Sir Thomas More, Fisher, and others, for denying his supremacy, and suppressed all the lesser monasteries.

His most sacred majesty, having now possessed his second queen about five years, fell violently in love with lady Jane Seymour. Ann Bullen was accused of adultery with her own brother, and with three other persons: she was beheaded the 19th of May,

Henry. 1536. He married Jane Seymore the day following.

In 1537, he put to death five of the noble family of Kildare, as a terror to the Irish, of whose disloyalty he had some apprehensions; and in the year following he executed the marquis of Exeter, with four other persons of distinction, for the sole crime of corresponding with cardinal Pole. In 1538 and 1539, he suppressed all the monasteries in England, and seized their revenues for his own use. The queen having died in childbed, he this year married the princess Ann of Cleves: but disliking her person, immediately determined to be divorced; and his obsequious parliament and convocation unanimously pronounced the marriage void, for reasons too ridiculous to be recited: but this was not all; Henry was so incensed with his minister and quondam favourite, Cromwell, for negotiating this match, that he revenged himself by the hand of the executioner. Yet this was not the only public murder of the year 1540. A few days after Cromwell's death, several persons were burnt for denying the king's supremacy, and other articles of heresy.

His majesty being once more at liberty to indulge himself with another wife, fixed upon Catharine Howard, niece to the duke of Norfolk. She was declared queen in August 1540; but they had been privately married some time before. Henry, it seems, was so entirely satisfied with this lady, that he daily blessed God for his present felicity; but that felicity was of short duration: he had not been married above a year, before the queen was accused of frequent prostitution, both before and since her marriage: she confessed her guilt, and was beheaded in February 1542. In July 1543, he married his sixth wife, the lady Catharine Parr, the widow of John Nevil lord Latimer, and lived to the year 1547 without committing any more flagrant enormities: but finding himself now approach towards dissolution, he made his will; and, that the last scene of his life might resemble the rest, he determined to end the tragedy with the murder of two of his best friends and most faithful subjects, the duke of Norfolk and his son the earl of Surrey. The earl was beheaded on the 19th of January; and the duke was ordered for execution on the 29th, but fortunately escaped by the king's death on the 28th. They were condemned without the shadow of a crime; but Henry's political reason for putting them to death, was his apprehension that, if they were suffered to survive him, they would counteract some of his regulations in religion, and might be troublesome to his son. Henry died on the 28th of January 1547, in the 56th year of his age, and was buried at Windsor.

As to his character, it is pretty obvious from the facts above related. Lord Herbert palliates his crimes, and exaggerates what he calls his *virtues*. Bishop Burnet says, "he was rather to be reckoned among the great than the good princes." He afterwards acknowledges, that "he is to be numbered among the ill princes;" but adds, "I cannot rank him with the worst." Sir Walter Raleigh, with infinitely more justice, says, "If all the pictures and patterns of a merciless prince were lost to the world, they might again be painted to the life out of the history of this king." He was indeed a merciless tyrant, a scurvy politician, a foolish bigot, a horrible assassin. See ENGLAND, n° 253—292.

HENRY of Huntingdon, an English historian, of the 12th century, was canon of Lincoln, and afterwards archdeacon of Huntingdon. He wrote, 1. A history of England, which ends with the year 1154. 2. A continuation of that of Bede. 3. Chronological tables of the kings of England. 4. A small treatise on the contempt of the world. 5. Several books of epigrams and love-verses. 6. A poem on herbs; all which are written in Latin.—His invocation of Apollo and the goddesses of Tempe, in the exordium of his poem on herbs, may not be unacceptable as a specimen of his poetry.

Vatum magne parens, herbarum Phœbe repertor,
Vosque, quibus resonant Tempe jocosa, Deæ!
Si mihi ferta prius hederæ florente parastis,
Ecce meos flores, ferte parata fero.

HENRY of Sufa, in Latin *de Segusio*, a famous civilian and canonist of the 13th century, acquired such reputation by his learning, that he was called *the source and splendor of the law*. He was archbishop of Embrun about the year 1258, and cardinal bishop of Ostia in 1262. He wrote *A summary of the canon and civil law*; and a commentary on the book of the decretals, composed by order of Alexander IV.

HENRY the Minstrel, commonly called *Blind Harry*, an ancient Scottish author, distinguished by no particular surname, but well known as the composer of an historical poem reciting the achievements of Sir William Wallace. This poem continued for several centuries to be in great repute; but afterwards sunk into neglect, until very lately that it has been again released from its obscurity by a very neat and correct edition published at Perth under the inspection and patronage of the earl of Buchan.

It is difficult to ascertain the precise time in which this poet lived, or when he wrote his history, as the two authors who mention him speak somewhat differently. Dempster, who wrote in the beginning of the last century, says that he lived in the year 1361: but Major, who was born in the year 1446, says that he composed his book during the time of his infancy, which we must therefore suppose to have been a few years posterior to 1446; for if it had been composed that very year, the circumstance would probably have been mentioned. As little can we suppose, from Mr Dempster's words, that Henry was born in 1361; for though he says that he *lived* in that year, we must naturally imagine rather that he was then come to the years of maturity, or began to distinguish himself in the world, than that he was only born at that time. The author of the dissertation on his life, prefixed to the new edition of the poem, endeavours to reconcile matters in the following manner: "It is not indeed impossible that he might be born in or about that year (1361). In the time of Major's infancy he might be about 83 years of age. In that case, it may be supposed that it was the work of his old age to collect and put in order the detached pieces of his History of Wallace, which he had probably composed in those parts of the country where the incidents were said to have happened."

We are entirely ignorant of the family from which Henry was descended; though, from his writings, we should be led to suppose that he had received a liberal education. In them he discovers some knowledge in divinity,

Henry. divinity, classical history, and astronomy, as well as of the languages. In one place he boasts of his celibacy, which seems to indicate his having engaged himself in some of the religious orders of that age. From what Major says further of him, we may suppose his profession to have been that of a travelling bard; though it does not appear that he was skilled in music, or had no other profession than that just mentioned. His being blind from his birth, indeed, makes this not improbable; though even this circumstance is not inconsistent with the supposition of his being a religious mendicant. "The particulars (says Major) which he heard related by the vulgar, he wrote in the vulgar verse, in which he excelled. By reciting his histories before princes or great men, he gained his food and raiment, of which he was worthy." It is thus probable that he would be a frequent visitor at the Scottish court; and would be made welcome by those great families who could boast of any alliance with the hero himself, or took pleasure in hearing his exploits or those of his companions.

With regard to the authenticity of his histories, Major informs us only that "he does not believe every thing that he finds in such writings;" but from other testimonies it appears, that he consulted the very best authorities which could at that time be had. Though, according to the most early account of Henry, it appears to have been at least 56 years after the death of Wallace that Henry was born; yet he is said to have consulted with several of the descendants of those who had been the companions of that hero while he achieved his most celebrated exploits, and who were still capable of ascertaining the veracity of what he published. The principal of these were Wallace of Craigue and Liddle of that Ilk; who, he says, persuaded him to omit in his history a circumstance which he ought to have inserted. Besides these, he consulted with the principal people of the kingdom; and he utterly disclaims the idea of having adhered entirely to any unwritten tradition, or having been promised any reward for what he wrote. His chief authority, according to his own account, was a Latin history of the exploits of Sir William, written partly by Mr John Blair and partly by Mr Thomas Gray, who had been the companions of the hero himself. Henry's account of these two authors is to the following purpose: "They became acquainted with Wallace when the latter was only about 16 years of age, and at that time a student at the school of Dundee; and their acquaintance with him continued till his death, which happened in his 29th year. Mr John Blair went from the schools in Scotland to Paris, where he studied some time, and received priests orders. He returned to Scotland in 1296, where he joined Wallace, who was bravely asserting the liberties of his country. Mr Thomas Gray, who was parson of Libberton, joined Wallace at the same time. They were men of great wisdom and integrity, zealous for the freedom of Scotland; and were present with Wallace, and assisting to him, in most of his military enterprises. They were also his spiritual counsellors, and administered to him godly comfort. The history written by these two clergymen was attested by William Sinclair bishop of Dunkeld, who had himself been witness to many of Wallace's actions. The bishop, if he had lived longer, was to have sent

Henry. their book to Rome, for the purpose of obtaining the sanction of the pope's authority."

The book which Henry thus appeals to as his principal authority is now lost, so that we have no opportunity of comparing it with what he has written. The character given by Dempster of Henry, however, is more favourable than that by Major. He tells us, that "he was blind from his birth; a man of singular happy genius; he was indeed another Homer. He did great honour to his native country, and raised it above what was common to it in his age. He wrote, in the vernacular verse, an elaborate and grand work, in ten books, of the deeds of William Wallace." In this account there is a mistake; for the poem contains eleven or twelve books: but Dempster, who wrote in a foreign country, and had not a printed copy of Henry's work by him when he wrote his eulogium, is excusable in a mistake of this kind.

With regard to his poetical merit, it must undoubtedly rank very far below that of Homer; whom indeed he scarcely resembles in any other respects than that he went about, as Homer is said to have done, reciting the exploits of the heroes of his country, and that he was blind. In this last circumstance, however, he was still worse than Homer; for Henry was born blind, but Homer became blind after he had been advanced in years. Hence Henry, even supposing his genius to have been equal to that of Homer, must have lain under great disadvantages; and these are very evident in his works. The descriptive parts are evidently deficient, and the allusions taken principally from the way in which nature affects those senses of which he was possessed. Thus, speaking of the month of March, he calls it *the month of right digestion*, from the supposed fermentation then begun in the earth. Of April he says that the earth is then *able*, or has obtained a power of producing its different vegetables; and of this productive power he appears to have been more sensible than of the effects which commonly strike us most sensibly. "By the working of nature (says he), the fields are again clothed, and the woods acquire their worthy weed of green. May brings along with it great celestial gladness. The heavenly hues appear upon the tender green." In another place he describes the deity of some river, whom he calls *Nymphæus*, "building his bower with oil and balm, fulfilled of sweet odour." By reason of these disadvantages, he seldom makes use of similes with which Homer abounds so much; and few miraculous interpositions are to be found in his poem, though the prophecies of Thomas Lermont, commonly called *The Rhymer*, and a prophetic dream of Wallace himself, are introduced, as well as the ghost of Fawdon, a traitor who had joined Wallace, and whom the latter in a fit of passion had killed. In other respects, the same inextinguishable thirst of blood which Homer ascribes to his hero Achilles is ascribed to Wallace, though in all probability the mind of Wallace was too much enlightened to admit of such sentiments. A vast degree of courage and personal strength are ascribed to him, by means of which the exploits of the whole army are in effect transferred to a single person. As long as he is invested with the command, the Scots are victorious and irresistible; when deprived of it, they are enslaved and undone. After struggling for some time against an inveterate and

Henry. and powerful faction, disdaining to feign submission, he is taken by treachery, and dies a martyr to the freedom of his country. The poem, on the whole, is valuable, on account of our being able to trace, by its means, the progress which the English language had made at that time in Scotland; the manners of the Scots in that age; as the favourite dress of green which at that time was the taste of the inhabitants of Scotland, &c. With regard to the authenticity of his relations, it is impossible to suppose any other thing than that they are partly true and partly false. The general thread of the story may undoubtedly be looked upon to be genuine, though embellished with poetical fictions and exaggerations; and his constant appeals to the book already mentioned, though it is now lost, must be looked upon as a strong testimony in his favour: for we cannot suppose that at the time he lived, when we may say that the transactions which he relates were recent, he would have had the confidence to appeal to a book which had not been generally known to have an existence; and its being now lost can never be any argument against it, when we consider the difficulty there was of preserving books before the invention of printing; the confusions in which Scotland was frequently involved; and that the exploits of Wallace, who must be supposed to have been a kind of rival to the great Bruce, could not be so agreeable to the court as those of the more successful hero; and therefore the history of them might be suffered to fall into oblivion, though written in elegant Latin, while a most ridiculous poem in that language on the battle of Bannockburn has been preserved to this day.

HENRY Prince of Wales, eldest son of king James VI. of Scotland by his queen Anne sister of the king of Denmark, and one of the most accomplished princes of the age in which he lived, was born on the 19th of February 1594. The birth of the prince was announced by embassies to many foreign powers, with invitations to be present at the ceremony of his baptism, which was thus delayed for a considerable time. Mr Peter Young, who, along with the celebrated George Buchanan, had been preceptor to his majesty, was sent to the courts of Denmark, Brunswic, and Mecklenburg, the duke of Mecklenburg being great-grandfather to the prince by the mother's side; the laird of East Weems to France and England; and Sir Robert Keith, and captain Murray provost of St Andrew's, to the States General, who at that time were struggling against the Spanish tyranny, and not yet declared a free state. All these ambassadors were cordially received, and others appointed in return except by the courts of France and England. Henry IV. at that time king of France, though the Scots ambassador had formerly been one of his own servants, neither made any present, nor appointed an ambassador. Queen Elizabeth had designed to act in the same manner till she heard of the behaviour of Henry; after which she honoured James by appointing an ambassador of very high rank, Robert earl of Suffex. This ambassador, however, was so long of making his appearance, that the queen imagined the ceremony would be over before his arrival; for which reason she sent a message to the earl, commanding him in that case not to enter Scotland nor deliver her present. But James had been more obsequious; and not only delayed the ceremony

till the English ambassador arrived, but distinguished him from the rest by having a canopy carried over his head at the procession, supported by the lairds of Cessford, Buccleugh, Duddope, and Traquair. The ceremony was performed with great magnificence; after which the ambassadors presented their gifts. That from the United States was the most valuable. It consisted of two gold cups worth 12,400 crowns, with a box of the same metal, weighing in all about 400 ounces, containing besides the grant of a pension of 5000 florins annually to the prince for life. The English ambassador gave a cupboard of plate curiously wrought, and valued at 3000l. sterling; and the Danish ambassador two gold chains, one for the queen and another for the prince. The baptism was celebrated on the 6th of September 1594, and the child named Frederick-Henry and Henry-Frederick.

The young prince was now committed to the care of the earl of Mar, who was assisted in this important charge by Annabella countess-dowager of Mar, daughter of William Murray of Tullibardine, and paternal ancestor of the present duke of Athol. This lady was remarkable for the severity of her temper, so that the prince met with little indulgence while under her tuition; notwithstanding which, he showed great affection for his governess all the time she had the care of him. Next year, however (1595), the queen engaged the chancellor, lord Thirlestane, in a scheme to get the prince into her own power; but the king having found means to dissuade her majesty from the attempt, showed afterwards such marks of displeasure to the chancellor, that the latter fell into a languishing disorder and died of grief.

In his sixth year prince Henry was committed to the care of Mr Adam Newton a Scotsman, eminently skilled in most branches of literature, but particularly distinguished for his knowledge of the Latin language. Under his tutorage the prince soon made great progress in that language, as well as in other branches of knowledge; insomuch that before he had completed his sixth year his father wrote for his use the treatise intitled *Basilikon Doron*, thought to be the best of all his works.

In his seventh year, prince Henry began his correspondence with foreign powers. His first letter was to the States of Holland; in which he expressed his regard and gratitude for the good opinion they had conceived of him, and of which he had been informed by several persons who had visited that country; concluding with a request that they would make use of his interest with his father in whatever he could serve them, promising also his service in every other respect in which he could be useful, until he should be able to give farther instances of his good-will and affection.

At this early period the prince began to add to his literary accomplishments some of the more martial kind, such as riding, the exercise of the bow, pike, &c. as well as the use of fire-arms; and indeed such was the attachment he showed throughout his whole lifetime to military exercises, that had he attained the years of maturity, there can scarce be a doubt that he would have distinguished himself in a most eminent manner. In all his exercises he made surprising progress; and not only in those of the military kind, but in singing, dancing, &c. On his ninth birth-day he sent a letter in Latin to the king, informing him that he had read

Henry.

over Terence's Hecyra, the third book of Phædrus's Fables, and two books of Cicero's Epistles; and that now he thought himself capable of performing something in the commendatory kind of epistles. His accomplishments were soon spoken of in foreign countries; and these, along with the general suspicion that James favoured the Catholic party, probably induced pope Clement VIII. to make an attempt to get him into his hands. With this view he proposed, that if James would entrust him with the education of the young prince, he would advance such sums of money as would effectually establish him on the throne of England. This happened a little before the death of Elizabeth; but James, notwithstanding his ambition to possess the crown of England, of which he was not yet altogether certain, withstood the temptation. He alleged, that it would be unnatural for him, as a father, to allow his son to be brought up in the belief of a doctrine which he himself did not believe: and even though he should act in his private capacity in such an unnatural manner, he could not answer for it to the nation, he being heir-apparent to the crown, and the kingdom at large much interested in whatever concerned him. On the death of the queen of England, James was obliged to leave Scotland in such haste, that he had no time to take a personal leave of his son, and therefore did so by letter, which was answered by the prince in Latin. The queen, however, who had been desired to follow the king to London in three weeks, but to leave the prince in Scotland, thought proper to make another attempt to get her son into her own power. With this view she took a journey to Stirling, where the prince resided, but was opposed in her designs by the friends of the house of Mar; and this affected her so much, that she miscarried of a child of which she was then pregnant. The king, hearing of this misfortune, ordered the prince to be delivered to his mother; but refused to inflict any punishment on the earl of Mar, which the queen insisted upon, that nobleman having been with the king at London, and entirely innocent of the whole affair. Instead of punishing him, therefore, he caused him to be acquitted by an act of the public council at Stirling; invested him with the order of the garter; made him a grant of several abbey and other church lands; and raised him to the post of lord high treasurer after the disgrace of the earl of Somerset; in which employment he continued till he could no longer perform the duties of his office through age and infirmity.

In the month of July this year (1603) prince Henry was invested with the order of the garter; after which he was presented to the queen in his robes, and greatly commended by all who saw him on account of his majestic carriage and religious behaviour at the altar, as well as the quickness of his understanding and ready answers. Being obliged to leave London on account of the plague, he retired to Otlands, a royal palace near Weybridge in Surrey, where a separate household was appointed for him and his sister Elizabeth. The appointment consisted at first of 70 servants, of whom 22 were to be above stairs and 48 below. In some weeks the number was augmented to 104, of whom 51 were above stairs and 53 below; but before the end of the year they were augmented to 141, of whom 56 were above stairs and 85 below.

From Otlands he removed the same year to Nonfuch in Surrey, and from thence to Hampton Court, where he resided till Michaelmas 1604; after which he returned to his house at Otlands, his servants having all this time been kept on board-wages.

In the tenth year of his age, Henry began to show a wonderful desire of becoming master of all those accomplishments which are necessary to constitute a great prince. Without desisting from his attention to polite literature, he applied himself in the most assiduous manner to the knowledge of naval and military affairs. To give him the first rudiments of the former, a small vessel was constructed 28 feet long and 12 broad, curiously painted and carved; on board of which he embarked with several of the principal nobility, and sailed down as far as Paul's Wharf, where, with the usual ceremonies, he baptized it by the name of the *Disdain*. Mr Pett the builder of this ship was recommended to the prince by the high admiral in such strong terms, that his highness took him immediately into his service, and continued his favour to him as long as he lived.

Prince Henry now began to show himself equally a patron of military men and of learning. His martial disposition induced him to take notice of Colonel Edmondes, a brave Scots officer in the Dutch service, who had raised himself solely by his merit. To him he applied for a suit of armour to be sent over from Holland: but though the Colonel executed his commission, he reaped no benefit from his highness's favour, dying in a short time after the armour was purchased, before he had any opportunity of sending it over. In matters of literature the prince appears to have been a very good judge. He patronised divines, and appears to have been naturally of a religious turn of mind. His attachment to the Protestant religion appears to have been excessive; as it never was in the power of the queen, who favoured the catholic party, to make the least impression upon him. Her machinations for this purpose were discovered by the French ambassador; who, in a letter dated June 7th 1604, informed his master of them, and that the Spaniards were in hopes of being able by her means to alter the religion in England, as well as to prejudice the prince against France, which the queen said she hoped that her son would one day be able to conquer like another Henry V. By another letter, of date 22d October the same year, the ambassador, after taking notice of the queen's immoderate ambition, adds, that she used all her efforts to corrupt the mind of the prince, by flattering his passions, diverting him from his studies, and representing to him, out of contempt to his father, that learning was inconsistent with the character of a great general and conqueror; proposing at the same time a marriage with the infanta of Spain. Notwithstanding these remonstrances, however, the prince continued to behave as usual, and to patronise the learned no less than before. He presented John Johnston, one of the king's professors at St Andrew's, with a diamond, for having dedicated to him an Historical Description of the kings of Scotland from the foundation of the monarchy to that time; after which the professor added a *carmen encomiasticum*, which was transmitted to his highness in November 1605. Many other authors also sought and obtained his countenance. In 1606 Mr John Bond ushered his edition of Horace into the world

Henry.

Henry. world with a polite dedication to the prince, whom he highly compliments on account of the progress he had made in learning. In 1609 a book was sent over to him from France by Sir George Carew, the British ambassador there, tending to disprove the doctrine of the Catholics concerning the church of Rome being the first of the Christian churches. The same year the learned Thomas Lydyat published his *Emendatio Temporum*, which appeared under the patronage of the prince; and with this performance his highness was so well pleased, that he took the author into his family to read to him, and made him his chronographer and cosmographer. Paul Buys or Busius also sent him a letter with a dedication of the second part of his *Pandects*; in which he bestows upon him the highest compliments on the great expectations which were formed of him, and of the hopes entertained by the reformed Christian churches that he would prove a powerful support to their cause, and antagonist to the errors of Rome. In 1611 Dr Tooker, in his dedication of an Answer to Becanus a Jesuit, who had written against a piece done by his majesty himself, styles his highness "the Mæcenæ of all the learned." Another treatise against the same Becanus was also printed this year, and dedicated to the prince.

Many other authors, whom our limits will not allow us to take notice of, were fond of dedicating their performances to his highness; nor was his correspondence less extensive than his erudition. We have already taken notice of his having written his first public letter to the states of Holland. He was congratulated by the elector palatine, afterwards married to the princess Elizabeth, on the discovery of the gunpowder-plot. On the same occasion also Lord Spencer wrote him a letter, accompanying it with the present of a sword and target; "instruments (says he) fit to be about you in those treacherous times; from the which, I trust, God will ever protect your most royal father, &c." Previous to this he had corresponded in Latin with the doge of Venice, the landgrave of Hesse, and the king of Denmark; in French with the duke of Savoy, and in Latin with the duke of Brunswic and Uladislaus king of Poland; besides a number of other eminent persons too tedious to enumerate.

The great accomplishments of Henry soon caused him to be taken notice of by the most eminent princes in Europe. In 1606 Henry IV. of France ordered his ambassador to pay him special regard on all occasions. He desired him likewise to salute the prince in the name of the dauphin, afterwards Louis XIII. and to inform him of the regard the latter had for him. A message was also sent by the same ambassador to M. de St Anthoine, appointed to be riding-master to his highness, enjoining him to do his duty in that office; and assuring him that his majesty would be as much pleased with it as if the service had been done to himself. To these messages the prince returned very proper answers; and afterwards performed his exercise in the riding-school before the ambassador himself, that the latter might send an account thereof to his master. On this occasion he mounted two horses, and acquitted himself so well that the ambassador, in a letter to M. de Villeroy, the French secretary, gave him the character of "a prince who promised very much, and whose friendship could not but be one day of advantage." Having then

set forth the propriety of cultivating a good understanding with him, he tells the secretary, that the dauphin might make a return for some dogs which the prince had sent him, by a suit of armour well gilt and enamelled, together with pistols and a sword of the same kind; also two horses, one of them a barb.— This year also the prince waited on his uncle the king of Denmark, who had come to England on a visit to King James; and this monarch was so much pleased with his company, that he presented him at parting with his vice-admiral and best fighting ship, valued at no less than 2500l. also with a rapier and hanger, valued at 2000 marks. The states of Holland were equally ready to show their attachment. On the 25th of August this year they sent a letter to the prince in French, accompanied with the present of a set of table-linen, which they thought, as being the produce of their own country, would be agreeable to him; and they requested his love and favour towards their state: in return for which they promised to be always ready to show their regard for him, and to do him all possible service; as the ambassador himself was ordered more particularly to declare. About this time the prince himself wrote a letter to Henry IV. acknowledging the kindness which his majesty had shown him for several years, and confirmed of late by the latter offering him under his own royal hand his friendship and that of the dauphin.

While James was this year employed in hunting, the French ambassador, who had been obliged to quit London on account of the plague, took frequent opportunities of waiting upon his highness, as did also the Spanish ambassador, whose ostensible reason was to inform him about some horses which were to be sent him from Spain. The prince's partiality towards France, however, was so evident, that the French ambassador, in a letter dated 31st October 1606, mentions, that "as far as he could discover, his highness's inclination was entirely towards France, and that it would be wrong to neglect a prince who promised such great things. None of his pleasures (continued he) favour the least of a child. He is a particular lover of horses and whatever belongs to them: but is not fond of hunting; and when he goes to it, it is rather for the pleasure of galloping than that which the dogs give him. He plays willingly enough at tennis, and another Scottish diversion very like mall; but this always with persons elder than himself, as if he despised those of his own age. He studies two hours a-day, and employs the rest of his time in tossing the pike, or leaping, or shooting with the bow, or throwing the bar, or vaulting, or some other exercise of the kind, and he is never idle. He shows himself likewise very good-natured to his dependents, supports their interests against any persons whatever, and pushes whatever he undertakes for them or others with such zeal as gives success to it. For, besides his exerting his whole strength to compass what he desires, he is already feared by those who have the management of affairs, and especially by the earl of Salisbury, who appears to be greatly apprehensive of the prince's ascendant; as the prince, on the other hand, shows little esteem for his lordship." In this letter the ambassador further goes on to remark, that some of the prince's attendants had formerly been made to expect pensions from France; and he

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Henry. he was of opinion that they ought to be gratified on account of the interest they had with the prince. He adds, that the queen had less affection for Prince Henry than for his brother the duke of York, afterwards Charles I.; which the prince seemed to have discovered, and sometimes used expressions to that purpose: that the king also seemed to be jealous of his son's accomplishments, and to be displeased with the quick progress he made.

In 1607 the prince received the arms and armour which Henry IV. sent him as a present; and these being accompanied with a letter, the prince returned an answer by a Mr Douglas, who was introduced to the king of France by the ambassador Sir George Carew. His majesty, contrary to custom, opened the prince's letter immediately; and was so much surprised at the beauty of the character, that he could not be satisfied that it was the prince's hand until he compared the signature with the rest of the writing. In his letter to the British court on this occasion, the ambassador sets forth in strong terms the affection expressed by the French monarch for the prince; "accounting of him as of his own son, as he hoped that his good brother of great Britain would do the like of the dauphin." The French ambassador also gave a character of his highness similar to that already mentioned; remarking, that the prince had great accomplishments and courage; would soon make himself talked of, and possibly give jealousy to his father, and apprehensions to those who had the greatest ascendant at court." With regard to the pensions to his attendants, he was at first of opinion that they ought to be granted; but afterwards altered his mind, perceiving that there was little probability of the prince being influenced by any of his attendants, as he was much more inclined to be guided by his own judgment than by the suggestions of others. — In the month of July this year the Dutch ambassadors came recommended to Prince Henry by the States, who wrote to him that they had ordered their ambassadors to kiss his highness's hands on their part, and desired him to continue his friendship to their republic, and to allow their ambassadors a favourable audience, and the same credit as to themselves.

All this attention paid him by foreign powers, all his attention to his own improvements in learning and the military art, and all the temptations which we cannot but suppose a youth in his exalted station to have been exposed to, seem never to have shaken the mind of this magnanimous prince in the least, or to have at any time made him deviate from the strict line of propriety. We have already mentioned his attachment to the Protestant religion; and this appears not to have been grounded upon any prejudice or opinion inculcated upon his infant mind by those who had the care of him, but from a thorough conviction of the truth of the principles which he professed. On the discovery of the gunpowder-plot, he was so impressed with gratitude towards the Supreme Being, that he never afterwards omitted being present at the sermon preached on the occasion. In his 14th year the prince showed himself capable of distinguishing the merit of religious discourses, and paid particular regard to such divines as were most remarkable for their learning and abilities. Among others, he honoured with his attention the learned and eloquent Mr Joseph Hall, then rector

of Halstead in Suffolk, afterwards dean of Worcester, and successively bishop of Exeter and Norwich. His highness was so much pleased with a book of Meditations published by that divine, that he pressed him to preach before him; and having heard two of his sermons, he engaged him as one of his chaplains; inviting him afterwards to stay constantly at his court, while the other chaplains waited only in their turns; promising, moreover, to obtain from the king such preferments as should fully satisfy him. Mr Hall, however, from a reluctance to leave his new patron Lord Denny afterwards earl of Norwich, did not accept of these honourable and advantageous proposals.

In his family the prince took the utmost care to preserve decency and regularity. He ordered boxes to be kept at his three houses of St James's, Richmond, and Non-such, for the money required of those who were heard to swear; the fines levied on such offenders being given to the poor. He had, indeed, a particular aversion to the vice of swearing and profanation of the name of God. When at play, he never was heard to do so; and on being asked why he did not swear at play as well as others? he answered, that he knew no game worthy of an oath. The same answer he is said to have given at a hunting-match. The stag, almost quite spent, crossed a road where a butcher was passing with his dog. The stag was instantly killed by the dog; at which the huntsmen were greatly offended, and endeavoured to irritate the prince against the butcher: but his highness answered coolly, "What if the butcher's dog killed the stag, what could the butcher help it? They replied, that if his father had been so served, he would have sworn so that no man could have endured. "Away," cried the prince, "all the pleasure in the world is not worth an oath."

The regard which Prince Henry had for religion was manifest from his attachment to those who behaved themselves in a religious and virtuous manner. Among these was Sir John Harrington, whose father had been knighted by queen Elizabeth, and created by King James a baron of England in 1603 by the title of Lord Harrington of Exton in Rutland. He was entrusted with the care of the Princess Elizabeth after her marriage with the elector palatine, whom he attended to Heidelberg in 1613, and died at Worms on the 24th of August following. His son, who in the year 1604 had been created knight of the Bath, was as soon as he came to the years of discretion remarkable for his piety; insomuch that he is said to have kept an exact diary of his life, and to have examined himself every week as to the progress he had made in piety and virtue, and what faults he had committed during that time. He was affable and courteous to all, and remarkable for his humanity to those in distress; all which good qualities so endeared him to the prince, that he entered into as strict a friendship with him as the disproportion between their stations would allow. There are still several letters extant which passed between them, chiefly upon classical subjects. This worthy and accomplished nobleman died in February 1614.

In his friendship Prince Henry appears to have been very sincere, and inviolably attached to those whom he once patronised. He had a great regard for the unfortunate Lady Arabella Stewart, sister of Henry Lord

Henry. Darnley, the king's father; and there is still extant a letter from this lady to the prince in return for some kindness he had bestowed on a kinsman of hers at her recommendation. He expressed much compassion for her misfortunes; she having excited the king's jealousy on account of her marriage with Mr William Seymour, afterwards earl and marquis of Hertford, and restored in 1660 to the dukedom of Somerset. But on her attempting to escape from the house in Highgate where she was confined, and to go abroad with her husband, his highness expressed some resentment against her; though in all probability his apprehensions, as well as those of the king, were ill-founded.

As early as the year 1605, the prince, though then only in his 11th year, manifested his gratitude and attachment to those who had served him, in the instance of his tutor Mr Newton already mentioned. That gentleman had been promised by his majesty the deanery of Durham upon the demise of the archbishop of York. On this promise Mr Newton had relied for two years; and as soon as the prelate died, his highness took care to put the king in mind of his promise; in consequence of which, Mr Newton was installed in his office on the 27th of September 1606.

Mr Pett, the gentleman who first instructed the prince in naval affairs, having been involved with many others in an inquiry concerning their conduct in their respective employments in the royal navy, the prince showed a laudable desire of protecting their innocence. The inquiry was set on foot by the earl of Northampton, lord privy seal and warden of the cinque ports, who had received a commission from the king for the purpose. It was carried on by his agents, however, with such violence and malice, as not only occasioned great trouble and expence to the parties concerned, but almost ruined the navy, besides augmenting his majesty's expences much more than formerly. Mr Pett's trial began on the 28th of April 1609; at which time the reports being very favourable to him, the king determined to examine into the state of the matter himself. For this purpose he went to Woolwich on the 8th of May, attended by the prince; and appointed Sir Thomas Chaloner, his highness's governor, and Mr Henry Briggs then professor of geometry in Gresham college, to decide the controversy which was then agitated about the proportion of the ships. The measurers declared in favour of Mr Pett; on which the prince exclaimed, "Where be now those perjured fellows, that dare thus to abuse his majesty with false informations? Do they not worthily deserve hanging?" During the whole time he stood near Mr Pett to encourage him; and when the king declared himself satisfied of his innocence, the prince took him up from his knees, expressing his own joy for the satisfaction which his father had received that day; protesting that he would not only countenance Mr Pett for the future, but provide for him and his family as long as he lived.

The courage, intrepid disposition, and martial turn of this prince, were manifest from his infancy. It is related of Alexander the Great, that at a very early period of his life he showed more skill than all his father's grooms in the breaking of his favourite horse Bucephalus. An anecdote somewhat similar is re-

corded of Prince Henry. He was hardly ten years of age, when he mounted a very high-spirited horse, in spite of the remonstrances of his attendants; spurred the animal to a full gallop; and having thoroughly wearied him, brought him back at a gentle pace, asking his servants at his return, "How long shall I continue in your opinion to be a child?" From the very first time that he embarked on board the small vessel formerly mentioned, he continued to pay the utmost attention to naval affairs. In August 1607, he visited the royal navy at Woolwich, where he was received by Mr Pett, and conducted aboard the Royal Anne, where he had 31 large pieces of ordnance ready to be fired. This was done unexpectedly as soon as the prince reached the poop; at which he expressed great satisfaction. After visiting the dock-yard, and surveying what was done of a ship then building for himself, he went ashore, and having partaken of an entertainment prepared for him by Mr Pett, he was by him conducted to the mount, where the ordnance were again charged and ready to be placed for firing. The prince insisted upon an immediate discharge, but suffered himself to be persuaded against it by Mr Pett's representation of the danger of firing so many ordnance loaded with shot while his highness stood close by: on a signal given by him, however, by holding up his handkerchief, after he had removed to a proper distance with his barge, the ordnance were discharged as he had desired. In his 16th year he paid several visits to Woolwich, in order to see the above mentioned ship which was building for himself. When finished, it was the largest that had ever been seen in England: the keel being 114 feet in length, and the cross-beam 44 feet; carrying 64 pieces of great ordnance; the burden about 1400 ton; and the whole curiously ornamented with carving and gilding. His highness having received this ship in a present from his majesty, went to see it lunched on the 24th of September 1609. The narrowness of the dock, however, having prevented its being done at that time, the prince, who staid behind the rest of the company in order to prepare for the ceremony next morning, returned by three o'clock through a storm of rain, thunder, and lightning; and standing on the poop while the ship was launched, gave it the name of the *Prince Royal*.

In 1611 his highness made a private visit to Chatham, where he first went on board the *Prince Royal*, and afterwards from ship to ship; informing himself particularly of every thing of moment relating to the state of all the different ships, and even pinnaces lying there at that time. Next day he went by water up to Stroud; where, contrary to all the remonstrances of his attendants, he caused the ordnance to be shot over his barge. From Stroud he went to Gravesend, where the magistrates received him with a discharge of all their small-arms and the ordnance of the block-houses.

About the middle of January 1612, Prince Henry ordered all his majesty's master-shipwrights and builders to attend him to consider of a proposition concerning the building of ships in Ireland made by a Mr Burrel. Some of his propositions were, that he should build any ship from 100 to 600 ton, with two decks and an half, at the rate of five pounds per ton; that he would build any ship from 600 to 1000 ton

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with three whole decks, at the rate of seven pounds per ton; that he should build a ship of 600 ton within a certain time, &c. Mr Pett was employed to see that this contract was fulfilled on the part of Mr Burrel. Among the prince's papers, a list of the royal navy was found after his death, with an account of all the expences of fitting out, manning, &c. which must now be accounted a valuable addition to the naval history of those times. His passion for naval affairs naturally led him to a desire of making geographical discoveries; of which, however, only two instances have reached our times. One was in 1607, when he received from Mr Tindal his gunner, who had been employed by the Virginia company, a draught of James's river in that country, with a letter dated 22d June the same year. In this letter Mr Tindal remarks, that his fellow-adventurers had discovered that river; and that no Christian had ever been there before; that they were safely arrived and settled; that they found the country very fruitful; and that they had taken a real and public possession in the name and to the use of the king his highness's father. The other instance was in the year 1612, the same in which he died, when he employed Mr Thomas Button, an eminent mariner, to go in quest of a north-west passage. Mr Button accordingly set sail with two ships named the *Resolution* and *Discovery*; the same designations with those in which the late Captain Cook made his last voyage. Both of them were victualled for 18 months; but wintering in these northern regions, they did not return till after the prince's decease, so that Captain Button was never sent on another voyage: nevertheless, he returned fully convinced of the existence of such a passage; and even told the celebrated professor Briggs of Gresham college, that he had convinced the king of his opinion.

The martial disposition of the prince, which was conspicuous on all occasions, eminently displayed itself on the occasion of his being invested in the principality of Wales and duchy of Cornwall, which took place in the year 1610. Previous to this ceremony, he, under the name and character of *Maliades* lord of the isles, caused a challenge to be given, in the romantic style of those times, to all the knights in Great Britain. The challenge, according to custom, was accepted; and on the appointed day, the prince, assisted only by the duke of Lenox, the earls of Arundel and Southampton, Lord Hay, Sir Thomas Somerset, and Sir Richard Preston who instructed his highness in arms, maintained the combat against 56 earls, barons, knights, and esquires. Prince Henry himself gave and received 32 pushes of the pike, and about 360 strokes of swords, performing his part very gracefully, and to the admiration of all who saw him, he being not yet 16 years of age. Prizes were bestowed upon the earl of Montgomery, Mr Thomas Darry, and Sir Robert Gordon, for their behaviour at this combat. The ceremony of installation was performed on the 4th of June 1610, at which time every kind of magnificence was displayed that could be devised. Among other pageants used on this occasion was that of Neptune riding on a dolphin and making speeches to the prince; also of a sea-goddes upon a whale. After the ceremony the prince took his place on the left hand of his majesty; sitting there in his royal robes,

with the crown on his head, the rod in one hand, and in the other the patent creating him Prince of Wales and duke of Cornwall. A public act was then read, testifying that he had been declared prince of Great Britain and Wales. He was afterwards served at table with a magnificence not unworthy of royalty itself; the whole concluding with a grand masquerade and tournament.

In one instance, the extreme desire which Prince Henry had of being instructed in military affairs, carried him beyond those bounds which European nations have prescribed to one another. In 1607 the prince de Joinville, brother to the duke of Guise, came to England, having been obliged to leave France in consequence of his having made love to the countess de Moret the king's mistress. After having been for a few weeks magnificently entertained at court, he departed for France in the beginning of June. The prince took an opportunity of sending to Calais in the train of the prince an engineer in his own service, who took the opportunity of examining all the fortifications of the town, particularly those of the Rix-banc. This was discovered by the French ambassador, who immediately gave notice of it to court, but excused the prince, as supposing that what he had done was more out of curiosity than any thing else; and the court seemed to be of the same opinion, as no notice was ever taken of the affair, nor was the friendship betwixt King Henry and the prince in the smallest degree interrupted. The martial disposition of his highness was greatly encouraged by some people in the military line, who put into his hands a paper intitled "Propositions for War and Peace." Notwithstanding this title, however, the aim of the author was evidently to promote war rather than peace; and for this the following arguments were used. 1. Necessity; for the preservation of our own peace, the venting of factious spirits, and instructing the people in arms. 2. The benefits to be derived from the spoils of the enemy, an augmentation of revenue from the conquered countries, &c. This was answered by Sir Robert Cotton in the following manner. 1. That our wisest princes had always been inclined to peace. 2. That foreign expeditions were the causes of invasions from abroad and rebellions at home, endless taxations, vassalage, and danger to the state from the extent of territory, &c. It does not appear, however, that the prince was at all moved by these pacific arguments: on the contrary, his favourite diversions were tilting, charging on horseback with pistols, &c. He delighted in conversing with people of skill and experience in war concerning every part of their profession; caused new pieces of ordnance to be made, with which he learned to shoot at a mark; and was so careful to furnish himself with a breed of good horses, that no prince in Europe could boast of a superiority in this respect. He was solicited by Sir Edward Conway to direct his attention to the affairs of the continent, where Sigismund III. of Poland threatened, in conjunction with the king of Denmark, to attack Gustavus Adolphus the young king of Sweden; but the death of the prince, which happened this year, prevented all interference of this kind.

To his other virtues Prince Henry added those of frugality without avarice, and generosity without extravagance.

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Henry. extravagance. As early as the year 1605 he began to show an attention to his interest as duke of Cornwall, and to take proper measures for securing his revenues there. In 1610 he settled and appointed the officers of his household, making his choices with the greatest prudence, and giving orders for the management and regulation of his affairs with all the wisdom and gravity of an old counsellor. Some lands were now allotted to him for his revenues; and instead of diminishing his income during the short time he was in possession of them, they were found at his death to be some thousands of pounds better than when he obtained them. At this time he showed much reluctance to gratify any of his servants except by promises, as not thinking himself yet authorised to give any thing away: but a short time before his death, he conferred pensions on some of them; and there is no reason to doubt, that had his life been prolonged he would have rewarded them all according to their merit.

Though Prince Henry never interfered much in public business, yet in any little transactions he had of this kind, he always displayed great firmness and resolution, as well as absolute propriety of conduct. In a letter from Sir Alexander Seton, earl of Dunfermling, he is commended for the firmness and resolution with which he repelled the calumnies of some who "had rashly, and with the highest intemperance of tongue, endeavoured to wound the Scottish nation." By this he alluded to some very gross and scurrilous invectives thrown out against the whole body of the Scots by Sir Christopher Pigot, in a debate in the house of commons on an union between the two kingdoms. This gentleman declared his astonishment at the proposal of uniting a good and fertile country to one poor, barren, and in a manner disgraced by nature; and for associating rich, frank, and honest men, with such as were beggars, proud, and generally traitors and rebels to their kings; with many other shameful expressions of the same kind. His majesty was highly offended with the whole council; and Sir Christopher, after being obliged in parliament to retract his words, was expelled the house and imprisoned; in consequence of which, the king was addressed by the states of Scotland, who thanked him for the zeal he had manifested for the honour of the country. In another instance, where the prince wished Mr Fullerton, a Scotsman, to supersede Sir Robert Carr, one of the attendants of his brother the duke of York, contrary to the inclination of the king and earl of Salisbury, his highness carried his point by persuading Sir Robert of himself to give up the place in question.

Under this year, 1611, the elegant Latin historian of Great Britain from 1572 to 1628, Robert Johnston, places a story, which, though unsupported by any authority but his own, and improbable in itself, must not be omitted here. The prince, according to this writer, requested the king that he might be appointed to preside in the council. This demand was seconded by the king's favourite Carr, Viscount Rochester, who urged his majesty to lay his son's petition before the council. But the earl of Salisbury, jealous of the growing power of Rochester, and a thorough master of artifice and dissimulation, used all his efforts to defeat whatever measures were proposed by his rival: and being asked soon after his opinion upon this point,

whether it was for the public interest that the prince should preside in the council? answered, that he thought it dangerous to divide the government, and to invest the son with the authority of the father. Many others of the privy council having delivered their opinions on the same question, that of the earl of Salisbury was adopted by the majority. But his lordship soon took an opportunity, in a secret conference with the prince, to lament his own situation, and to persuade his highness that Lord Rochester had the only influence in the palace, and privately counteracted all his designs. The prince, on his part, resented the denial of his request, and his exclusion from public business. It was not long before Lord Rochester discovered the earl of Salisbury's practice against him with the prince; to whom he therefore went to clear himself. But his highness turned from him with great indignation, and would not hear his justification. The queen likewise, highly displeased with the viscount, refused to see him, and sought all means of lessening his power. This forwardness imputed to the prince by the historian, in endeavouring to intrude himself into the management of public affairs, is not (as Dr Birch remarks) at all suitable to the character of his highness, or to any other accounts which we have of him; nor ought it to be believed upon the credit of a writer who cites no authority for it, nor indeed for scarce any other assertions in his history, how extraordinary soever they appear to be, and who frequently ventures to enlarge upon subjects which it was impossible for him to have known. However, it is not much to be doubted, that the prince had no great esteem for Lord Rochester, whose rise to the power of a favourite and a minister he so much disliked, if we may believe a satirical writer of *Memoirs**, that he was reported either to have struck his lordship on the back with a racket, or very hardly forborne it. And another historian, not much less satirical, Arthur Wilson†, mentions the bickerings betwixt the prince and the viscount; and that Sir James Elphinston observing his highness one day to be discontented with the viscount, offered to kill him; for which the prince reproved him, and said that if there were cause he would do it himself. But to wave such very suspicious authorities, it will be sufficient, in order to judge of his highness's opinion of the viscount, and his administration at the very height of it, to hear what himself says in a letter to Sir Thomas Edmondes of the 10th of September 1612: "As matters go now here, I will deal in no businesses of importance for some respects."

It is not to be supposed but that the marriage of a prince so accomplished and so much admired would engage the attention of the public. This was indeed the case. The queen, who favoured the interest of Spain, proposed a match with the infanta, and the king of Spain himself seemed to be inclined to the match. In 1611 a proposal was made for a double marriage betwixt the prince of Wales and the eldest daughter of the house of Savoy, and between the prince of Savoy and the Lady Elizabeth; but these overtures were very coolly received, being generally disagreeable to the nation. Sir Walter Raleigh, at that time prisoner in the Tower, wrote two excellent treatises against these matches; in one of which he styles the prince *The most excellent and hopeful*, as he does also in the in-

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* Francis Osborne's *Traditional Memoirs on King James*, sect. 38.
† *Life and Reign of K. James I.*

Henry. Introduction to his Observations on the royal navy and sea-service. About the year 1612, his marriage became an object of general attention. In this affair the king seems to have inclined to match his son with the princess who promised to bring the largest dowry; the nation at large to have been influenced by motives of religion; and the prince himself to have remained entirely passive, and to have been willing to bestow his person with the most perfect indifference on whatsoever princess should be chosen for him. This appears from a letter to the king dated 5th October 1612, in which he considers the match with the second princess of France as in a manner concluded. Proposals had indeed been made of sending her over to England for her education, she being only nine years of age at that time; but Villeroy the French minister was of opinion, that this ought to be delayed for a year longer. The reasons assigned by the prince for wishing her coming to England at that time were merely political: 1. Because the French court, by having the princess in their power, might alter her mind as they pleased; 2. That there would thus be a greater likelihood of converting her to the Protestant religion; and, 3. That his majesty's credit would be better preserved when both daughters (the eldest being promised to the prince of Spain) should be delivered at the same time, though the conclusion of the one marriage might be much later than of the other. With regard to the exercise of her religion, the prince expressed himself rather in severe terms, wishing his majesty only to allow her to use it in "her most private and secret chamber." He then argues with the most philosophic indifference of the propriety of a match with the French princess rather than with one of the house of Savoy; concluding at last in the following words; "If I have incurred in the same error that I did last by the indifference of my opinion, I humbly crave pardon of your majesty, holding it fitter for your majesty to resolve what course is most convenient to be taken by the rules of the state, than for me who am so little acquainted with subjects of that nature: and besides, your majesty may think, that my part to play, which is to be in love with any of them, is not yet at hand." On the whole, it appeared, that there never was any real design in the king or prince to bring this matter to a conclusion; and that the proposal had been made only with a view to break off the match of the eldest daughter with the prince of Spain, which could not now be done.

Prince Henry, notwithstanding his indifference in matrimonial matters, applied himself with the utmost assiduity to his former employments and exercises, the continual fatigue of which was thought to impair his health. In the 19th year of his age his constitution seemed to undergo a remarkable change: he began to appear pale and thin, and to be more retired and serious than usual. He complained now and then of a giddiness and heavy pain in his forehead, which obliged him to stroke up his brow before he put on his hat: he frequently bled at the nose, which gave great relief, though the discharge stopped some time before his death. These forebodings of a dangerous malady were totally neglected both by himself and his attendants, even after he began to be seized at intervals with fainting fits. Notwithstanding these alarming symp-

toms, he continued his usual employments. On the arrival of Count de Nassau in England, he waited upon him as though nothing had been the matter; and when the subject of the princess Elizabeth's marriage came to be canvassed, he interested himself deeply in the affair, and never desisted till the match with the elector palatine was concluded. In the beginning of June 1612, the prince went to Richmond, where he continued till the progress; and notwithstanding the complaints above mentioned, he now took the opportunity of the neighbourhood of the Thames to learn to swim. This practice in an evening, and after supper, was discommended by several of his attendants; and was supposed to have stopped the bleeding at the nose, from which he had experienced such salutary effects. He could not, however, be prevailed upon to discontinue the practice; and took likewise great pleasure in walking by the river-side in moon-light to hear the sound and echo of the trumpets, by which he was undoubtedly too much exposed to the evening dews. Through impatience to meet the king his father, he rode 60 miles in one day; and having rested himself during the night, he rode the next day 36 miles to Belvoir Castle, where he met the king at the time appointed. During the heat of the season also he made several other fatiguing journeys, which must undoubtedly have contributed to impair his health. At the conclusion of the progress, he gave a grand entertainment to the court from Wednesday till Sunday evening, when the king and queen with the principal nobility attended at supper. Next day he hastened to his house at Richmond, where he expected the elector palatine, and began to give orders for his reception, also to take measures for rewarding his servants. To some of those he gave pensions, and promised to gratify the rest as soon as possible. From this time, however, his health daily declined. His countenance became more pale, and his body more emaciated: he complained now and then of drowziness, which frequently made him ask his attendants concerning the nature and cure of an epidemic fever, probably of the putrid kind, which at that time prevailed in England, and was supposed to have been brought thither from Hungary. He now began frequently to sigh, as is usual for persons afflicted with disorders of that kind. The malady increased in the beginning of October, though he used his utmost endeavours to conceal it, and occupied himself as usual; only that now, instead of rising early in the morning as before, he would commonly keep his bed till nine. On the 10th of that month he had two slight fits of an ague, which obliged him to keep his chamber; and on the 13th his distemper seemed to be augmented by a violent diarrhoea, which, however, gave so much relief next day, that he insisted upon being removed from Richmond to St James's, in order to receive the elector palatine. On his arrival there, some of his attendants began to be alarmed by the signs of sickness which appeared upon him, though he himself made no complaint, and even allowed his physician to go to his own house. The elector arrived on the 16th, and the prince waited upon him at Whitehall; but his disease had now gained so much ground, that his temper underwent a very considerable alteration, and he became peevish and discontented with almost every thing; never-

Henry. nevertheless he still continued to give orders about what related to the ceremony of his sister's marriage; and kept company as much as he could with the elector and the count de Nassau, with whose conversation he seemed to be particularly delighted. So great was his activity even at this time, that he played a match at tennis on the 24th of October. At this time he exposed himself in his shirt, seemingly without any inconvenience; but at night he complained of a greater degree of lassitude than usual, and of a pain in his head. Next day, being Sunday, he attended divine service, and heard two sermons; after which he dined with his majesty, seemingly with a good appetite, but the paleness and ghastly appearance of his countenance was much remarked. About three in the afternoon he was obliged to yield to the violence of his distemper; being seized with a great faintness, shivering, and head-ach, with other symptoms of a fever, which from that time never left him. Several physicians were called; but they differed much in their opinions, if indeed any agreement amongst them, considering the state of medicine at that time, could have been of service. On the first of November he was blooded; an operation which Dr Butler one of his physicians had hitherto opposed, but now consented to in compliance with his fellows. The impropriety of it was manifest by the thin and dissolved state of the blood which was taken away, and still more by his becoming much worse next day. As at that time the Peruvian bark, the great antidote in putrid diseases, was unknown, and no proper methods of treatment seem to have been employed, it is not to be wondered that he sunk under the disease. Among other absurd remedies used on this occasion was "a cock cloven by the back, and applied to the soles of his feet." He expired on the 6th of November 1612, at the age of 18 years 8 months and 17 days. On opening his body, the lungs were found black, spotted, and full of corrupted matter; the diaphragm was also blackened in many places; the blood-vessels in the hinder part of the head were distended with blood, and the ventricles full of water: the liver was in some places pale and lead-coloured; the gall-bladder destitute of bile, and distended with wind; and the spleen in many places unnaturally black. His funeral was not solemnized till the 7th of December following. Many funeral sermons were published in honour of him, and the two universities published collections of verses on this occasion. The most eminent poets of that age also exerted themselves in honour of the deceased prince; particularly Donne, Brown, Chapman, Drummond of Hawthornden, Dominic Baudius of Leyden, &c.

His highness's family continued together at St James's till the end of December 1612, when it was dissolved; and upon the day of their dissolution, Mr Joseph Hall, his chaplain, preached to them a most pathetic farewell sermon on Revel. xxi. 3. In this he speaks of his deceased master in the highest terms of commendation, as the glory of the nation, ornament of mankind, hope of posterity, &c.; and that he, who was compounded of all loveliness, had infused an harmony into his whole family, which was "the most loving and entire fellowship that ever met in the court of any prince." The exhortation, with which the preacher concludes, is: "Go in peace, and live as

those that have lost such a master, and as those that serve a Master whom they cannot lose." Henry.

Prince Henry was of a comely stature, about five feet eight inches; of a strong, straight, well made body, with somewhat broad shoulders and a small waist; of an amiable and majestic countenance: his hair of an auburn colour: he was long-faced, and had a broad forehead, a piercing eye, a most gracious smile, with a terrible frown. He was courteous, loving, and affable; naturally modest, and even shame-faced; most patient, which he showed both in life and death; slow to anger, so that even when he was offended he would govern it and restrain himself to silence. He was merciful to offenders, after a little punishment to make them sensible of their faults. His sentiments of piety were strong and habitual; and his zeal for the interests of religion was such, that he would, if he had lived, have used his endeavours for reconciling the divisions among its professors. He usually retired three times a-day for his private devotions, and was scarce once a month absent from the public prayers, where his behaviour was highly decent and exemplary, and his attention to the preacher the most fixed imaginable. He had the greatest esteem for all divines whose characters and conduct corresponded with their profession; but could not conceal his indignation against such as acted inconsistently with it, and he above all things abhorred flattery and vain-glory in them. He had a thorough detestation for popery, though he treated those of that religion with great courtesy; showing, that his hatred was not levelled at their persons, but their opinions. And he was so immovable in his attachment to the Protestant religion, that, not long before his death, as Sir Charles Cornwallis † assures us, † *Discourse of the most illustrious Prince Henry, by Sir Charles Cornwallis, printed in the Harleian Miscellany, vol. iv. p. 320.* he made a solemn protestation that he would never join in marriage with one of a different faith.

The prince was so exact in all the duties of filial piety, and bore so true a reverence and respect for the king his father, that though sometimes, out of his own inclination, or by the excitement of others, he moved his majesty in some things relating to the public, or his own particular interests, or those of others; yet upon the least word or look or sign given him of his majesty's disapprobation, he would instantly desist from pursuing the point, and return either with satisfaction upon finding it disagreeable to the king, or with such a resolved patience that he neither in word or action gave so much as any appearance of being displeased or discontented. He adhered strictly to justice on all occasions; and never suffered himself to determine rashly, or till after a due examination of both parties. This love of justice showed itself very early by favouring and rewarding those among his pages, and other young gentlemen placed about him, who, by men of great judgment, were thought to be of the best behaviour and most merit. And when he was but a little above five years of age, and a son of the earl of Mar, somewhat younger than himself, falling out with one of his highness's pages, did him some wrong, the prince reproved him for it, saying, "I love you, because you are my lord's son, and my cousin: but if you be not better conditioned, I will love such a one better;" naming the child who had complained of him. He was of singular in-

Henry. integrity, and hated flattery and dissimulation; the latter of which he esteemed a base quality, especially in a prince; nor could he ever constrain himself to treat those kindly who did not deserve his love. A nobleman in the highest favour with the king had written to him, by special command of his majesty, a letter, wherein he recommended to his highness a matter of very great consequence, to be instantly answered; and in his subscription had used these words, "Yours before all the world." His highness directed Sir Charles Cornwallis to draw up an answer, who, having written it, added some words of favour to the nobleman to precede the prince's signing. His highness having read and considered the letter, allowed it entirely without alteration: But with regard to the words of subscription, notwithstanding the great haste which the dispatch required, he ordered it to be new written, and the words objected to by him to be left out; alleging, that he to whom he wrote had dealt with him untruly and unfaithfully, and that his hand should never affirm what his heart did not think. His temperance, except in the article of fruit, was as eminent as his abhorrence of vanity and ostentation, which began to show themselves when he was very young. When he was taught to handle the pike, and his master instructed him both by word and example to use a kind of stateliness in marching and holding of his hand; though he learned all other things, he would not conform himself to that affected fashion: and if sometimes, upon earnest intreaty, he offered to use it, he would laugh at himself, and presently return to his own more modest and decent manner. And though he was a perfect master of dancing, he never practised it except when he was strongly pressed to it. The same modesty appeared in whatever he said or did: But it was no impediment to his generous and heroic disposition, which made him perform all his exercises best before much company and the greatest personages. His cloaths were usually very plain, except on occasions of public ceremony, or upon receiving foreign ambassadors, when he would assume a magnificence of dress, and an air of majesty, which immediately after he laid aside. Having once worn a suit of Welsh frize for a considerable time, and being told that it was too mean for him, and that he ought not to keep even a rich suit so long; his answer was, that he was not ashamed of his country cloth, and wished that it would last for ever.

In quickness of apprehension and memory few of the same age ever went beyond this prince; and fewer still in a right judgment of what he was taught. When he began to have some knowledge of the Latin tongue, being desired to choose a motto out of several sentences collected by his tutor for his use, after reading over many good ones, he pitched upon that of Silius Italicus, *Fax mentis honeste gloria*. And being asked by the king one day, which were the best verses that he had learned in the first book of Virgil's *Æneid*, he answered these:

*Rex erat Æneas nobis, quo justior alter
Nec pietate fuit, nec bello major & armis.*

Reading likewise another verse of the same poet,

Tros Tyriusque mihi nullo discrimine agetur,

he said he would make use of it with this alteration,

Anglus Scotusque mihi nullo discrimine agetur.

Besides his knowledge of the learned languages, he spoke the Italian and French; and had made a considerable progress in philosophy, history, fortification, mathematics, and cosmography; in the two last of which he was instructed by that excellent mathematician Mr Edward Wright. He loved and endeavoured to do somewhat of every thing, and to be excellent in the most excellent. He greatly delighted in all rare inventions and arts, and military engines both at land and sea; in shooting and levelling great pieces of ordnance; in the ordering and marshaling of armies; in building and gardening; in music, sculpture, and painting, in which last art he brought over several works of great masters from all countries.

He had a just opinion of the great abilities of Sir Walter Raleigh; and is reported to have said, that "no king but his father would keep such a bird in a cage." And it is affirmed, that his highness, but a few months before his death, obtained the lands and cattle of Sherburn in Dorsetshire, the confiscated estate of Sir Walter, with an intention of returning it to him. That eminent writer, soldier, and statesman, had a reciprocal regard for the prince, to whom he had designed to address a discourse "Of the Art of War by Sea," which his highness's death prevented the author from finishing. He had written likewise to the prince another "Discourse of a Maritimal Voyage, with the passages and incidents therein:" But this has never yet appeared in print. He had also intended, and, as he expresses it, hewn out a second and third volume of his General History, which were to have been directed to his highness: "but it has pleased God (says he) to take that glorious prince out of this world, to whom they were directed; whose unspeakable and never-enough lamented loss hath taught me to say with Job, *Versa est in ludum cithara mea, & organum meum in vocem flentium.*"

In the government of his household and management of his revenues, though he was so very young, his example deserved to be imitated by all other princes. He not only gave orders, but saw almost every thing done himself; so that there were scarce any of his domestics whom he did not know by name. And among these there was not one even suspected papist; his directions being very peremptory for setting down the names of all communicants, that he might know if there were any of his family who did absent themselves from the communion. His family was large, consisting of few less than 500, many of them young gentlemen born to great fortunes, in the prime of their years, when their passions and appetites were strong, their reason weak, and their experience little. But his judgment, the gravity of his princely aspect, and his own example, were sufficient restraints upon them; his very eye served instead of a command; and his looks alone had more effect than the sharpest reprehensions of other princes. If any disputes or contentions arose among his servants, he would put a stop to them at the beginning, by referring them to some of his principal officers, whom he thought most intelligent in points of that nature, and to understand best what compensation was due to the injured, and what reproof to the offender; so that in so numerous a family there was not so much as a blow given, nor any quarrel carried to the least height.

Though

Henry.

Though he loved plenty and magnificence in his house, he restrained them within the rules of frugality and moderation, as we have already noticed. By this economy he avoided the necessity of being rigid to his tenants, either by raising their farms or fines, or seeking or taking advantage of forfeitures. Nor was he tempted to make the profit which both law and right afforded him, of such who had in the time of former princes purchased lands belonging to his duchy of Cornwall, which could not by law be alienated from it; for he gave them, upon resuming these lands, a reasonable satisfaction. Neither did his economy restrain him from being liberal where merit or distress called for it; at the same time he was never known to give, or even promise, any thing, but upon mature deliberation. Whatever abuses were represented to him, he immediately redressed, to the entire satisfaction of the persons aggrieved. In his removal from one of his houses to another, and in his attendance on the king on the same occasions, or in progresses, he would suffer no provisions or carriages to be taken up for his use, without full contentment given to the parties. And he was so solicitous to prevent any person from being prejudiced or annoyed by himself or any of his train, that whenever he went out to hawk before harvest was ended, he would take care that none should pass thro' the corn; and, to set them an example, would himself ride rather a furlong about.

His speech was slow, and attended with some impediment, rather, as it was conceived, by custom and a long imitation of some who first instructed him, than by any defect of nature, as appeared from his having much corrected it by using at home amongst his servants, first short discourses, and then longer, as he found himself enabled to do it. Yet he would often say of himself, that he had the most unserviceable tongue of any man living.

He had a certain height of mind, and knew well how to keep his distance; which indeed he did to all, admitting no near approach either to his power or his secrets. He expressed himself, upon occasions offered, to love and esteem most such of the nobility as were most anciently descended, and most nobly and honestly disposed. He had an entire affection for his brother the duke of York and his sister Elizabeth; though sometimes, by a kind of rough play with the former, and an appearance of contradicting the latter in what he discerned her to desire, he took a pleasure in giving them, in their tender years, some exercise of their patience. A writer † of less authority than Sir Charles Cornwallis, from the latter of whom we have these particulars, adds, that the prince seemed to have more affection for his sister than his brother, whom he would often taunt till he made him weep, telling him, that he should be a bishop, a gown being fittest to hide his legs, which were subject in his childhood to be crooked.

With regard to any unlawful passion for women, to the temptations of which the prince's youth and situation peculiarly exposed him, his historian, who knew him, and observed him much, assures us, that having been present at great feasts made in the prince's house, to which he invited the most beautiful ladies of the court and city, he could not discover by his highness's behaviour, eyes, or countenance, the least appearance

of a particular inclination to any one of them; nor was he at any other time witness of such words or actions as could justly be a ground of the least suspicion of his virtue: though he observes, that some persons of that time, measuring the prince by themselves, were pleased to conceive and report otherwise of him. It is indeed asserted, by the writer of *Aulicus Coquinaria*, believed upon good grounds to be William Saunderson, Esq; author of the "Complete History of Mary Queen of Scotland, and her son and successor King James," that the Prince made court to the Countess of Essex (afterwards divorced from the Earl, and married to the Viscount Rochester), before any other lady then living. And Arthur Wilson mentions the many amorous glances which the prince gave her, till discovering that she was captivated with the growing fortunes of Lord Rochester, and grounded more hope upon him than the uncertain and hopeless love of his highness, he soon slighted her. The learned and pious antiquary, Sir Simonds D'Ewes, in a manuscript life of himself written with his own hand, and brought down to the year 1637, is positive, that "notwithstanding the inestimable Prince Henry's martial desires and initiation into the ways of godliness, the countess, being set on by the earl of Northampton her father's uncle, first caught his eye and heart, and afterwards prostituted herself to him, who first reaped the fruits of her virginity. But those sparks of grace which even then began to show their lustre in him, with those more heroic innate qualities derived from virtue, which gave the law to his more advised actions, soon raised him out of the slumber of that distemper, and taught him to reject her following temptations with indignation and superciliousness." But these authorities, Dr Birch observes, ought to have little weight to the prejudice of the prince's character, against the direct testimony in his favour from so well-informed a writer as Sir Charles Cornwallis.

The immature death of the prince concurring with the public apprehensions of the power of the papists, and the ill opinion which the nation then had of the court, gave immediate rise to suspicions of its being hastened by poison. And these suspicions were heightened by the very little concern shown by some persons in great stations. "To tell you (says Richard earl of Dorset in a letter to Sir Thomas Edmondes, of the 23d of November 1612) that our rising sun is set ere scarcely he had shone, and that with him all our glory lies buried, you know and do lament as well as we, and better than some do, and more truly; or else you are not a man, and sensible of this kingdom's loss." And it is certain, that this loss made so little impression upon the king and his favourite, that the lord viscount Rochester on the 9th of November, three days after it, wrote to Sir Thomas Edmondes to begin a negotiation for a marriage between Prince Charles and the second daughter of France. But the ambassador, who had more sense of decency, thought it improper to enter upon such an affair so soon after the late prince's death. Mr Beaulieu, secretary to Sir Thomas Edmondes, in a letter of the 12th of November 1612, to Mr Trumbull, then resident at Brussels, after styling the prince "the flower of his house, the glory of his country, and the admiration of all strangers, which in all places had imprinted a great hope on the minds of

Henry.

† Francis Osborne, *Traditional Memoirs on the Reign of King James, 1604, 45.*

Henry. the well-affected, as it had already stricken terror into the hearts of his enemies," adds, "who perhaps (for of this lamentable accident we have yet no particular relation) fearing the growing virtues of that young prince, have used the traiterous venom of their abominable practices to cut him off in his youth. And this I do not apprehend without cause, considering the several advertisements which I saw a month ago coming out of England, Holland, and Calais, of strange rumours which were in these parts, of some great and imminent practice in hand, for the success whereof it was written, that in some places our adversaries had made solemn prayers: and out of Calais it was especially advertised, that in your parts they were in expectation of the death of some great prince. But alas! we did little apprehend, that such ominous prognostications would have lighted upon the person of that vigorous young prince, whose extraordinary great parts and virtues made many men hope and believe, that God had reserved and destined him, as a chosen instrument, to be the standard-bearer of his quarrel in these miserable times, to work the restoration of his church, and the destruction of the Romish idolatry."

With the above notion his royal highness's mother the queen was peculiarly impressed, according to Dr Welwood; who, in his Notes on Arthur Wilson's Life of King James I. in the Complete History of England, p. 714. informs us, though without giving any authority, that when the prince fell into his last illness, the queen sent to Sir Walter Raleigh for some of his cordials, which she herself had taken some time before in a fever with remarkable success. Raleigh sent it, together with a letter to the queen, wherein he expressed a tender concern for the prince; and, boasting of his medicine, stumbled unluckily upon an expression to this purpose, "that it would certainly cure him or any other of a fever, except in case of poison." As the prince took this medicine, and died notwithstanding its virtues, the queen, in the agony of her grief, showed Raleigh's letter; and laid so much weight on the expression about poison, that as long as she lived she could never be persuaded but that the prince had died by that means. Sir Anthony Weldon* *Court and Character of* suggests that the prince was poisoned. The same notion is countenanced by Wilson in his History †; and was adopted by Dr Welwood, as already mentioned: † P. 62, 63. Who likewise, in another work, his *Memoirs*, after styling the prince "the darling of mankind, and a youth of vast hopes and wonderful virtues," remarks, that it was the general rumour at the time of his death, that his highness was poisoned; and that there is in print a sermon preached at St James's upon the dissolution of his family, that boldly insinuated some such thing. By this sermon Dr Welwood must mean that of Mr Hall cited above; in which, however, at least as it is reprinted in the London edition of his works in 1617 in folio, there is not to be found any expression that carries the least insinuation of that kind. The writer of the memoirs adds, that Sir Francis Bacon, in his speech at the trial of the earl of Somerset, had some reflections upon the intimacy of that lord with Sir Thomas Overbury, which seemed to point that way; there being several expressions left out of the printed copy that were in the speech. Bishop Burnet likewise tells us, that he was assured by Colonel Titus,

that he had heard King Charles I. declare, that the prince his brother was poisoned by the means of the Viscount Rochester, afterwards earl of Somerset. But it will be perhaps sufficient to oppose to all such suggestions the unanimous opinion of physicians who attended the prince during his sickness, and opened his body after his death; from which, as Dr Welwood himself observes, there can be no inference drawn that he was poisoned. To which may be added the authority of Sir Charles Cornwallis ‡, who was well informed, and ‡ *Life and Death of* above all suspicion in this point, and who pronounces Henry, p. 81, 82. the rumours spread of his highness's having been poisoned vain; and was fully convinced that his death was natural, and occasioned by a violent fever.

HENRY (Philip), a pious and learned nonconformist minister, was the son of Mr John Henry, page of the back-stairs to James duke of York, and was born at Whitehall in 1631. He was admitted into Westminster-school at about 12 years of age; became the favourite of Dr Bushby, and was employed by him, with some others, in collecting materials for the Greek grammar he afterwards published. From thence he removed to Christ-church, Oxford; where, having obtained the degree of master of arts, he was taken into the family of judge Puleston, at Emerald in Flintshire, as tutor to his sons, and to preach at Worthenbury. He soon after married the only daughter and heiress of Mr Daniel Matthews of Broad-oak near Whitechurch, by whom he became possessed of a competent estate. When the king and episcopacy were restored, he refused to conform, was ejected, and retired with his family to Broad-oak: here, and in the neighbourhood, he spent the remainder of his life, about 28 years, relieving the poor, employing the industrious, instructing the ignorant, and exercising every opportunity of doing good. His moderation in his nonconformity was eminent and exemplary; and upon all occasions he bore testimony against uncharitable and schismatical separation. In church-government he wished for archbishop Usher's reduction of episcopacy. He thought it lawful to join in the common prayer in public assemblies; which, during the time of his silence and restraint, he commonly attended with his family with reverence and devotion.

HENRY (Matthew), an eminent dissenting minister and author, was the son of the former, and was born in the year 1662. He continued under his father's care till he was 18 years of age; in which time he became well skilled in the learned languages, especially in the Hebrew, which his father had rendered familiar to him from his childhood; and from first to last the study of the scriptures was his most delightful employment. He completed his education in an academy kept at Islington by Mr Doolittle, and was afterwards entered in Gray's Inn for the study of the law; where he became well acquainted with the civil and municipal law of his own country, and from his application and great abilities it was thought he would have become very eminent in that profession. But at length, resolving to devote his life to the study of divinity, in 1686 he retired into the country, and was chosen pastor of a congregation at Chester, where he lived about 25 years, greatly esteemed and beloved by his people. He had several calls from London, which he constantly declined; but was at last prevailed upon to accept an unanimous

Henry. unanimous invitation from a congregation at Hackney. He wrote, 1. Expositions of the Bible, in 5 vols folio. 2. The life of Mr Philip Henry. 3. Directions for daily communion with God. 4. A method for prayer. 5. Four discourses against vice and immorality. 6. The communicant's companion. 7. Family hymns. 8. A scriptural catechism. And, 9. A discourse concerning the nature of schism. He died of an apoplexy at Nantwich, when upon a journey, in 1714; and was interred at Trinity-church in Chester.

HENRY (Dr Robert), author of the "History of Great Britain, written on a new plan," was the son of James Henry farmer at Muirtown in the parish of St Ninian's, North Britain, and of Jean Galloway daughter of ——— Galloway of Burrowmeadow in Stirlingshire. He was born on the 18th of February 1718; and having early resolved to devote himself to a literary profession, was educated first under a Mr John Nicolson at the parish-school of St Ninian's, and for some time at the grammar-school of Stirling. He completed his course of academical study at the university of Edinburgh, and afterwards became master of the grammar-school of Annan. He was licensed to preach on the 27th of March 1746, and was the first licentiate of the presbytery of Annan after its erection into a separate presbytery. Soon after, he received a call from a congregation of Presbyterian dissenters at Carlisle, where he was ordained in November 1748. In this station he remained 12 years, and on the 13th of August 1760 became pastor of a dissenting congregation in Berwick upon Tweed. Here he married, in 1763, Ann Balderston daughter of Thomas Balderston surgeon in Berwick; by whom he had no children, but with whom he enjoyed to the end of his life a large share of domestic happiness. He was removed from Berwick to be one of the ministers of Edinburgh in November 1768; was minister of the church of the New Grey Friars from that time till November 1776; and then became colleague-minister in the old church, and remained in that station till his death. The degree of Doctor in Divinity was conferred on him by the university of Edinburgh in 1770; and in 1774 he was unanimously chosen moderator of the general assembly of the church of Scotland, and is the only person on record who obtained that distinction the first time he was a member of assembly.

From these facts, which contain the outlines of Dr Henry's life, few events can be expected to suit the purpose of the biographer. Though he must have been always distinguished among his private friends, till he was translated to Edinburgh he had few opportunities of being known to the public. The composition of sermons must have occupied a chief part of his time during his residence at Carlisle, as his industry in that station is known to have rendered his labours in this department easy to him during the rest of his life. But even there he found leisure for other studies; and the knowledge of classical literature, in which he eminently excelled, soon enabled him to acquire an extent of information which qualified him for something more important than he had hitherto in his view.

Soon after his removal to Berwick, he published a scheme for raising a fund for the benefit of the widows and orphans of Protestant dissenting ministers in the

north of England. This idea was probably suggested by the prosperity of the fund which had almost 30 years before been established for a provision to ministers widows, &c. in Scotland. But the situations of the clergy of Scotland were very different from the circumstances of dissenting ministers in England. Annuities and provisions were to be secured to the families of dissenters, without subjecting the individuals (as in Scotland) to a proportional annual contribution, and without such means of creating a fund as could be the subject of an act of parliament to secure the annual payments. The acuteness and activity of Dr Henry surmounted these difficulties; and, chiefly by his exertions, this useful and benevolent institution commenced about the year 1762. The management was entrusted to him for several years; and its success has exceeded the most sanguine expectations which were formed of it. The plan itself, now sufficiently known, it is unnecessary to explain minutely. But it is mentioned here, because Dr Henry was accustomed in the last years of his life to speak of this institution with peculiar affection, and to reflect on its progress and utility with that kind of satisfaction which a good man can only receive from "the labour of love and of good works."

It was probably about the year 1763 that he first conceived the idea of his History of Great Britain: a work already established in the public opinion; and which will certainly be regarded by posterity, not only as a book which has greatly enlarged the sphere of history, and gratifies our curiosity on a variety of subjects which fall not within the limits prescribed by preceding historians, but as one of the most accurate and authentic repositories of historical information which this country has produced. The plan adopted by Dr Henry, which is indisputably his own, and its peculiar advantages, are sufficiently explained in his general preface. In every period, it arranges, under separate heads or chapters, the civil and military history of Great Britain; the history of religion; the history of our constitution, government, laws, and courts of justice; the history of learning, of learned men, and of the chief seminaries of learning; the history of arts; the history of commerce, of shipping, of money or coin, and of the price of commodities; and the history of manners, virtues, vices, customs, language, dress, diet, and amusements. Under these seven heads, which extend the province of an historian greatly beyond its usual limits, every thing curious or interesting in the history of any country may be comprehended. But it certainly required more than a common share of literary courage to attempt on so large a scale a subject so intricate and extensive as the history of Britain from the invasion of Julius Cæsar. That Dr Henry neither over-rated his powers nor his industry, could only have been proved by the success and reputation of his works.

But he soon found that his residence at Berwick was an insuperable obstacle in the minute researches which the execution of his plan required. His situation there excluded him from the means of consulting the original authorities; and though he attempted to find access to them by means of his literary friends, and with their assistance made some progress in his work, his information was notwithstanding so incomplete, that he found it impossible to prosecute his plan

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to his own satisfaction, and was at last compelled to relinquish it.

By the friendship of Gilbert Laurie, Esq; late lord provost of Edinburgh, and one of his majesty's commissioners of excise in Scotland, who had married the sister of Mrs Henry, he was removed to Edinburgh in 1768; and it is to this event that the public are indebted for his prosecution of the History of Great Britain. His access to the public libraries, and the means of supplying the materials which these did not afford him, were from that time used with so much diligence and perseverance, that the first volume of his History in quarto was published in 1771, the second in 1774, the third in 1777, the fourth in 1781, and the fifth (which brings down the History to the accession of Henry VII.) in 1785. The subject of these volumes comprehends the most intricate and obscure periods of our history; and when we consider the scanty and scattered materials which Dr Henry has digested, and the accurate and minute information which he has given us under every chapter of his work, we must have a high opinion both of the learning and industry of the author, and of the vigour and activity of his mind: especially when it is added, that he employed no amanuensis, but completed the manuscript with his own hand; and that, excepting the first volume, the whole book, such as it is, was printed from the original copy. Whatever corrections were made on it, were inserted by interlineations, or in revising the proof-sheets. He found it necessary, indeed, to confine himself to a first copy, from an unfortunate tremor in his hand, which made writing extremely inconvenient, which obliged him to write with his paper on a book placed on his knee instead of a table, and which unhappily increased to such a degree that in the last years of his life he was often unable to take his victuals without assistance. An attempt which he made after the publication of the fifth volume to employ an amanuensis did not succeed. Never having been accustomed to dictate his compositions, he found it impossible to acquire a new habit; and though he persevered but a few days in the attempt, it had a sensible effect on his health, which he never afterwards recovered.—An author has no right to claim indulgence, and is still less intitled to credit, from the public for any thing which can be ascribed to negligence in committing his manuscripts to the press; but considering the difficulties which Dr Henry surmounted, and the accurate research and information which distinguish his history, the circumstances which have been mentioned are far from being uninteresting, and must add considerably to the opinion formed of his merit among men who are judges of what he has done. He did not profess to study the ornaments of language; but his arrangement is uniformly regular and natural, and his style simple and perspicuous. More than this he has not attempted, and this cannot be denied him. He believed that the time which might be spent in polishing or rounding a sentence was more usefully employed in investigating and ascertaining a fact: And as a book of facts and solid information, supported by authentic documents, his history will stand a comparison with any other history of the same period.

But Dr Henry had other difficulties to surmount than those which related to the composition of his

work. Not having been able to transact with the booksellers to his satisfaction, the five volumes were originally published at the risk of the author. When the first volume appeared, it was censured with an unexampled acrimony and perseverance. Magazines, reviews, and even newspapers, were filled with abusive remarks and invectives, in which both the author and the book were treated with contempt and scurrility. When an author has once submitted his works to the public, he has no right to complain of the *just* severity of criticism. But Dr Henry had to contend with the inveterate scorn of malignity. In compliance with the usual custom, he had permitted a sermon to be published which he had preached before the society in Scotland for propagating Christian knowledge in 1773; a composition containing plain good sense on a common subject, from which he expected no reputation. This was eagerly seized on by the adversaries of his History, and torn to pieces with a virulence and asperity which no want of merit in the sermon could justify or explain. An anonymous letter had appeared in a newspaper to vindicate the History from some of the unjust censures which had been published, and asserting from the real merit and accuracy of the book the author's title to the approbation of the public. An answer appeared in the course of the following week, charging him, in terms equally confident and indecent, with having written this letter in his own praise. The efforts of malignity seldom fail to defeat their purpose, and to recoil on those who direct them. Dr Henry had many friends, and till lately had not discovered that he had any enemies. But the author of the anonymous vindication was unknown to him, till the learned and respectable Dr Macqueen, from the indignation excited by the confident petulance of the answer, informed him that the letter had been written by him. These anecdotes are still remembered. The abuse of the History, which began in Scotland, was renewed in some of the periodical publications in South Britain; though it is justice to add (without meaning to refer to the candid observations of English critics), that in both kingdoms the asperity originated in the same quarter, and that paragraphs and criticisms written at Edinburgh were printed in London. The same spirit appeared in *Strictures* published on the second and third volumes; but by this time it had in a great measure lost the attention of the public. The malevolence was sufficiently understood, and had long before become fatal to the circulation of the periodical paper from which it originally proceeded. The book, though printed for the author, had sold beyond his most sanguine expectations; and had received both praise and patronage from men of the first literary characters in the kingdom: and though, from the alarm which had been raised, the booksellers did not venture to purchase the property till after the publication of the fifth volume, the work was established in the opinion of the public, and at last rewarded the author with a high degree of celebrity, which he happily lived to enjoy.

In an article relating to Dr Henry's life, not to have mentioned the opposition which his History encountered, would have been both affectation and injustice. The facts are sufficiently remembered, and are unfortunately too recent to be more minutely explained.

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Henry. That they contributed at first to retard the sale of the work is undeniable, and may be told without regret now that its reputation is established. The book has raised itself to eminence as a History of Great Britain by its own merits; and the means employed to obstruct its progress have only served to embellish its success.

Dr Henry was no doubt encouraged from the first by the decided approbation of some of his literary friends, who were allowed to be the most competent judges of his subject; and in particular by one of the most eminent historians of the present age, whose history of the same periods justly possesses the highest reputation. The following character of the first and second volumes was drawn up by that gentleman, and is well intitled to be inserted in a narrative of Dr Henry's life. "Those who profess a high esteem for the first volume of Dr Henry's history, I may venture to say, are almost as numerous as those who have perused it, provided they be competent judges of a work of that nature, and are acquainted with the difficulties which attend such an undertaking. Many of those who had been so well pleased with the first were impatient to see the second volume, which advances into a field more delicate and interesting; but the Doctor hath shown the maturity of his judgment, as in all the rest, so particularly in giving no performance to the public that might appear crude or halcy, or composed before he had fully collected and digested the materials. I venture with great sincerity to recommend this volume to the perusal of every curious reader who desires to know the state of Great Britain in a period which has hitherto been regarded as very obscure, ill supplied with writers, and not possessed of a single one that deserves the appellation of a good one. It is wonderful what an instructive, and even entertaining, book the Doctor has been able to compose from such unpromising materials: *Tantum series juncturaque pollet*. When we see those barbarous ages delineated by so able a pen, we admire the oddness and singularity of the manners, customs, and opinions, of the times, and seem to be introduced into a new world; but we are still more surprised, as well as interested, when we reflect that those strange personages were the ancestors of the present inhabitants of this island.—The object of an antiquary hath been commonly distinguished from that of an historian; for though the latter should enter into the province of the former, it is thought that it should only be *quanto basta*, that is, so far as is necessary, without comprehending all the minute disquisitions which give such supreme pleasure to the mere antiquary. Our learned author hath fully reconciled these two characters. His historical narrative is as full as those remote times seem to demand, and at the same time his inquiries of the antiquarian kind omit nothing which can be an object of doubt or curiosity. The one as well as the other is delivered with great perspicuity, and no less propriety, which are the true ornaments of this kind of writing. All superfluous embellishments are avoided; and the reader will hardly find in our language any performance that unites together so perfectly the two great points of entertainment and instruction."—The gentleman who wrote this character died before the publication of the third volume.—The progress of his work introduced Dr Henry to more extensive patronage, and in particular to the

notice and esteem of the earl of Mansfield. That venerable nobleman, who is so well intitled to the gratitude and admiration of his country, thought the merit of Dr Henry's history so considerable, that, without any solicitation, after the publication of the fourth volume he applied personally to his Majesty to bestow on the author some mark of his royal favour. In consequence of this, Dr Henry was informed by a letter from lord Stormont, then secretary of state, of his Majesty's intention to confer on him an annual pension for life of 100 l. "considering his distinguished talents and great literary merit, and the importance of the very useful and laborious work in which he was so successfully engaged, as titles to his royal countenance and favour." The warrant was issued on the 28th of May 1781; and his right to the pension commenced from the 5th of April preceding. This pension he enjoyed till his death, and always considered it as incurring a new obligation to persevere steadily in the prosecution of his work. From the earl of Mansfield he received many other testimonies of esteem both as a man and as an author, which he was often heard to mention with the most affectionate gratitude. The octavo edition of his history, published in 1788, was inscribed to his lordship. The quarto edition had been dedicated to the king.

The property of the work had hitherto remained with himself. But in April 1786, when an octavo edition was intended, he conveyed the property to Messrs Cadell and Strachan; reserving to himself what still remained unsold of the quarto edition, which did not then exceed eighty-one complete sets. A few copies were afterwards printed of the volumes of which the first impression was exhausted, to make up additional sets: and before the end of 1786, he sold the whole to Messrs Cadell and Strachan. By the first transaction he was to receive 1000 l. and by the second betwixt 300 l. and 400 l.; about 1400 l. in all. These sums may not be absolutely exact, as they are set down from memory; but there cannot be a mistake of any consequence on the one side or the other.—Dr Henry had kept very accurate accounts of the sales from the time of the original publication; and after his last transaction with Messrs Cadell and Strachan, he found that his real profits had amounted in whole to about 3300 pounds: a striking proof of the intrinsic merit of a work which had forced its way to the public esteem unprotected by the interest of the booksellers, and in spite of the malignant opposition with which the first volumes had to struggle.

The prosecution of his history had been Dr Henry's favourite object for almost 30 years of his life. He had naturally a sound constitution, and a more equal and larger portion of animal spirits than is commonly possessed by literary men. But from the year 1785 his bodily strength was sensibly impaired. Notwithstanding this, he persisted steadily in preparing his sixth volume, which brings down the history to the accession of Edward VI. and has left it in the hands of his executors almost completed. Scarcely any thing remains unfinished but the two short chapters on arts and manners; and even for these he has left materials and authorities so distinctly collected, that there can be no great difficulty in supplying what is wanting. It is hoped that this volume may be ready for publication some time in

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the winter or spring 1792; and that it will be found intitled to the same favourable reception from the public which has been given to the former volumes. It was written under the disadvantages of bad health and great weakness of body. The tremulous motion of his hand had increased so as to render writing much more difficult to him than it had ever been: but the vigour of his mind and his ardour were unimpaired; and independent of the general character of his works, the posthumous volume will be a lasting monument of the strength of his faculties, and of the literary industry and perseverance which ended only with his life.

Dr Henry's original plan extended from the invasion of Britain by the Romans to the present times. And men of literary curiosity must regret that he has not lived to complete his design; but he has certainly finished the most difficult parts of his subject. The periods after the accession of Edward VI. afford materials more ample, better digested, and much more within the reach of common readers.

Till the summer of 1790 he was able to pursue his studies, though not without some interruptions. But at that time he lost his health entirely; and, with a constitution quite worn-out, died on the 24th of November of that year, in the 73d year of his age.—He was buried in the church-yard of Polmont, where it is proposed to erect a monument to his memory.

HENTINGS, in agriculture, a term used by the farmers for a particular method of sowing before the plough; the corn being cast in a straight line just where the plough is to come, is by this means presently ploughed in. By this way of sowing they think they save a great deal of seed and other charge, a dexterous boy being as capable of sowing this way out of his hat as the most skilful seedsman.

HENTING is also a term used by the ploughmen, and others, to signify the two furrows that are turned from one another at the bottom, in the ploughing of a ridge. The word seems to be a corruption of ending, because those furrows made an end of ploughing the ridges. The tops of the ridges they call *veerings*.

HEPAR SULPHURIS, or *Liver of Sulphur*, a combination of alkaline salt and sulphur. See **CHEMISTRY**, n° 1021—1025.

By means of the fume arising on the decomposition of hepar sulphuris by an acid, Mr Bergman hath found a method of imitating the hot or sulphureous mineral waters, to as great perfection as the cold ones are now imitated by fixed air. The process consists simply in adding the vitriolic acid to hepar sulphuris, and impregnating water with the peculiar species of air that arises from this mixture; in the same manner as when water is impregnated with the fixed air arising from the mixture of that or any other acid with chalk. This *hepatic air*, as the author calls it, is very readily absorbed by water; to which it gives the smell, taste, and all the other sensible qualities of the sulphureous waters. A Swedish cantharus of distilled water, containing 12½ Swedish cubic inches, will absorb about 60 cubic inches of this hepatic air; and on dropping into it the nitrous acid, it will appear, that a real sulphur is contained, in a state of perfect solution, in this water, to the quantity of eight grains. It does not appear that any other acid, except what the author

calls the *dephlogisticated marine acid*, will produce this effect.—When any particular sulphureous water is to be imitated, we scarce need to observe, that the saline, or other contents peculiar to it, are to be added to the artificial hepatic water. Instead of the liver of sulphur, the operator may use a mixture of three-parts of filings of iron and two parts of sulphur melted together.

It may, perhaps, be thought, that water thus prepared, does not differ from that in which a portion of the hepar sulphuris has been dissolved: but it appears evidently to differ from it in this material circumstance;—that in the solution of hepar sulphuris, the sulphur is held in solution by the water, through the means of the alkali combined with it: whereas, in Mr Bergman's process, it does not appear probable that the hepar sulphuris rises substantially in the form of air; for, in that case, its presence in the hepatic water might be detected by means of the weakest of the acids (even the mephitic), which would precipitate the sulphur from it. Nor can it be supposed that any portion or constituent part of the alkali itself (except a part of its remaining fixed air) can come over. The water, therefore, must owe its impregnation to the sulphur, raised, in some peculiar manner, into the state of an elastic vapour; permanent, when the experiment is made in quicksilver; but condensable in water, and rendered soluble in that fluid through the means of some unknown principle combined with it, and which the author supposes to be the matter of heat, combined with it through the medium of phlogiston.

HEPATIC, in medicine and anatomy, any thing belonging to the liver.

HEPATIC Air, a permanently elastic fluid, of a very disagreeable odour somewhat like that of rotten eggs, obtained in plenty from combinations of sulphur with earths, alkalies, metals, &c. and sometimes from combinations of alkalies with substances which do not appear to contain any sulphur.

The nature of this fluid has been particularly examined by Mr Kirwan, of whose experiments we have an account in the 76th volume of the Philosophical Transactions, and of which the results are as follow.

1. By weighing it in a glass bottle exhausted in the most perfect manner by an air-pump, its specific gravity is found to be to that of common air as 10,000 to 9038.
2. Though inflammable, it never detonates with common air; nor can it be fired in a narrow-mouthed vessel, unless mixed with a considerable proportion of this air. Mr Scheele found that it would take fire when mixed with two thirds of common air; but M. Sennebier informs us that it cannot be fired by the electric spark even when mixed with any quantity of respirable air. Mr Kirwan found one part of the hepatic air, and one and a half of common air, to burn blue without flashing or detonating; and that, during the combustion, sulphur is constantly deposited, and a smell of vitriolic acid perceived. Mixed with an equal part of nitrous air, it burns with a bluish, green, and yellow lambent flame: it deposits sulphur also; and in proportion as the latter is deposited, a candle dipped in the air burns more weakly, and is at last extinguished. Two parts of nitrous and one of hepatic air burn partially.

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tially with a green flame; the residuum extinguishing a candle, which reddens on coming into contact with the atmosphere. One part of common air being admitted to equal parts of nitrous and hepatic air, sulphur was instantly precipitated, and the three measures reduced to 2.4; which burned on the surface with a greenish flame, but extinguished the candle when sunk deeper. Four parts of hepatic, with one of common air, burned rapidly with a blue flame; and a mixture of equal parts of dephlogisticated and hepatic airs which had stood eight days, went off with a report like a pistol, and so instantaneously that the colour of the flame could scarcely be discerned.

3. Hepatic air turns the tincture of litmus red, which Bergman supposes it would not do if it were washed; but Mr Kirwan found no alteration after passing two measures through water, or even after boiling the air out of water impregnated with it. Nay, the same hepatic air which had once reddened litmus, continued to do so after being put to a fresh quantity of the tincture.

4. There is a considerable difference in the miscibility of hepatic air with water according to the materials from which the former is made. By slight agitation, water in the temperature of 66° imbibes two thirds of its bulk of air extracted from alkaline or calcareous hear by means of marine acid. An equal quantity of water dissolves three-fourths of its bulk of hepatic air extracted by the same acid from martial hear; eight-tenths of that extracted by means of the concentrated vitriolic acid, or the dilute nitrous or saccharine acids in the temperature of 60° ; seven-tenths of that extracted by sedative acid; nine-tenths of that made with the acetous acid, and of that afforded by oil of olives; and lastly, its own bulk of that produced from a mixture of sugar and sulphur. In general, however, that produced by the greatest degree of heat seemed to be the most easily miscible; though in some instances, particularly that of acetous hepatic air, this does not take place.

5. The union between hepatic air and water is not permanent. Even when the water has been boiled in order to expel the air it naturally contains previous to its union with the hepatic air, the fluid grows very soon turbid, and deposits the hepatic air in the form of sulphur, though the bottle be ever so well corked, or stand inverted in water or mercury. The absorption of the air by water, however, does not seem to occasion any decomposition in the former, as the quantity left will be absorbed like the former by adding more water. It cannot be expelled from water till it comes near the boiling point.

6. No kind of hepatic air, excepting that produced from charcoal, precipitates lime from lime-water; and even this does it only in a very slight degree, unless a large quantity of air pass through a small one of water.

7. The most sensible test of the presence of hepatic air is the solution of silver in the nitrous acid. This, according as the nitrous acid is more or less saturated with silver, becomes black, brown, or reddish brown, by the contact with hepatic air, however mixed with common air or any other permanently elastic fluid. When the acid is not saturated, or is in large proportion, the brown or black precipitate, which is nothing but sulphurated silver, is redissolved.

8. All hepatic air suffers some diminution by standing over mercury, and blackens the surface of the metal; particularly that made from charcoal.

9. Mixtures of hepatic air with common, dephlogisticated, and phlogisticated airs, continued for a long time either totally undiminished or very little so, as did those also with inflammable marine acid air and fixed air; only blackening the surface of the mercury.

10. Two measures of hepatic air being introduced to two of vitriolic air, a whitish yellow deposition immediately covered the top and sides of the jar, and both airs were without any agitation reduced to little more than one measure. As the glass, however, was obscured by a whitish scurf over its whole inside, it was found necessary to repeat the experiment. One cubic inch of hepatic air was then added to five of vitriolic air; and, in less than a minute, without any agitation, the sides of the glass were covered with a whitish scum apparently moist, and a diminution of more than one ounce measure took place. In four hours after, a second measure of hepatic air was introduced; which was followed by a second deposition of whitish matter and diminution of the air. Next day three other measures were added at the interval of four hours between each; when, finding still a farther diminution, another measure was added next day. The whole quantity of 11 ounce measures was thus reduced at last to three, which seemed to be little else than phlogisticated air. The water in which the sulphur precipitated from the hepatic air was washed, and appeared to contain some vitriolic acid and fixed air.

11. A mixture of two measures of nitrous, and as much hepatic air, was little altered at first even by agitation; but, on standing 36 hours, both were reduced by something more than one third of the whole. The mercury was not blackened, but particles of yellow sulphur were deposited both upon the sides of the glass and the surface of the metal. The air which remained had still an hepatic smell, and was somewhat more diminished by water: a candle burned naturally in the unabsobered part. The water had all the properties of that which had absorbed hepatic air. On adding nine cubic inches of nitrous air to eight of hepatic, a yellowish cloud instantly appeared, a slight white scum was deposited on the sides of the jar; and the whole seemed to be diminished about two cubic inches, the temperature of the room being then 72° . In 48 hours the whole was reduced to six cubic inches, and the top and sides of the jar covered with a cake of white sulphur; the heat of the room being constantly between 60 and 70° . The residuum was examined in 24 hours after, and had a pretty strong smell of alkaline air. A candle burned in it naturally; and it did not affect tincture of litmus, lime-water, or acetous barytes. It was not affected by any kind of air except the dephlogisticated kind, and this produced only a slight redness and diminution; it produced also a slight white precipitate in solution of silver. Hence it appeared that this was *dephlogisticated nitrous air*, or, as our author thinks, it ought rather to be called *deacidified nitrous air*.

12. Mr Kirwan supposing that an uncombined acid in the nitrous air was the cause of precipitation, he deprived some nitrous air of this acid as perfectly as possible before mixing it with hepatic air; which was done:

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done by admitting alkaline air to it, and then washing out the ammoniacal compound in distilled water. By being deprived of its acid it lost about one-sixth of its bulk; and it was diminished by common air in the same manner that nitrous air usually is. Seven cubic inches of hepatic air were then admitted all at once to eight of the purified nitrous air. No cloud or other mark of any precipitation appeared: but in six hours the whole was reduced to five cubic inches, the temperature of the room being 76° ; but the diminution went no further in 18 hours after. A much whiter sulphur was deposited than in the former experiment; and both in this and the former, that part which was intercepted by the rising of the mercury betwixt the metal and the side of the jar was of a yellow and red shining colour, and not black, as that deposited in mercury usually is. The residuum flashed with such violence as to extinguish a candle dipped into it, the flame being exceedingly white and vivid; though it did not detonate in the least, but rather appeared like dephlogisticated air. The jar out of which it had been transferred had a strong alkaline smell. It was not in the least diminished by nitrous air, even when heated to 150 degrees. Water poured into the jar in which the sulphur was deposited produced a bluish white cloud in solution of silver, though insipid to the taste; whence it appears, that whatever this air may be, it had been deacidified by hepatic air still more perfectly than that in which a candle burns naturally, but was by no means dephlogisticated.

13. Perfectly pure alkaline and hepatic airs mixed together would probably destroy each other; but Mr Kirwan never had it in his power to do this entirely. Six measures of hepatic air from liver of sulphur, and six of alkaline air, immediately throw up a white cloud, leaving a whitish scum on the side of the jar, and are reduced to about one ounce measure. On adding water this is reduced to about one half; and a candle burns naturally in it. This residuum, however, was afterwards found to be only the common air of the vessels.

14. One measure of oil of vitriol, of the specific gravity of 1.863, absorbed two measures of hepatic air all to one-tenth; the acid being whitened by a copious deposition of sulphur.

15. A measure of red nitrous acid, of the specific gravity of 1.430, was introduced to an equal measure of hepatic air: red vapours instantly arose; and only one-tenth or one-twelfth of a measure remained in an aerial form; but as the acid acted on the mercury, it was necessary to use water, by which the whole was absorbed. No sulphur was precipitated on this occasion. The experiment was repeated in another manner, but with little success; so that Mr Kirwan, finding it so difficult to use the concentrated nitrous acid, determined to try its effects upon hepatic air by diluting the acid to such a degree that it could not act upon mercury without the assistance of heat. In this case the acid was whitened, eight-tenths of the air absorbed, and the residuum detonated. A still greater quantity was absorbed when the experiment was made with hepatic air made from liver of sulphur; but the residuum, instead of detonating, burned with a blue and greenish flame, depositing sulphur upon the sides of the jar. This dilute acid absorbed about three

times its bulk of hepatic air; but on expelling the same from it again by heat, the sixth part only was obtained, and in this a candle burned naturally.

16. Two measures of alkaline hepatic air were absorbed by one of strong marine acid to one-fifth of a measure, after a slight agitation. On adding a third measure of hepatic air, the whole was absorbed to half a measure. The sulphur precipitated in this experiment was attracted by the mercury, and blackened it; which did not happen in the former cases, by reason of the stronger attraction of the acid for the sulphur. The residuum burned as pure hepatic air.

17. Distilled vinegar absorbs nearly its own bulk of hepatic air, and becomes slightly whitened; but by agitation it may be made to take up about twice its bulk, and then becomes very turbid.

18. One measure of caustic vegetable alkali, the specific gravity of which was 1.043, absorbed nearly four measures of alkaline hepatic air, which rendered it brown at first, but after some time it grew clear and deposited sulphur, blackening the surface of the mercury.

19. One measure of caustic volatile alkali, of the specific gravity of 0.9387, absorbed 18 of hepatic air. A greater quantity of alkali would absorb more hepatic air, six measures of the alkaline air uniting to seven of the hepatic; and thus the strength of alkaline liquors, and their real contents, may, according to our author, be determined better than by any other method. The smoking liquor of Boyle (a strong volatile tincture of sulphur) may be easily prepared by putting volatile alkali in the middle vessel of Dr Nooth's apparatus, and decomposing liver of sulphur, or artificial pyrites in the lowermost one by means of marine acid.

20. Olive oil absorbs nearly its own bulk of hepatic air, and gets a greenish tinge from it.

21. Oil of turpentine absorbs more than its own bulk of this air, but then becomes turbid. A white cloud appears when water is put to the mixture.

22. Spirit of wine, of the specific gravity of 0.835, absorbed nearly three times its bulk of hepatic air, and became brown. Thus sulphur may be combined with spirit of wine more easily than by the method used by Count Pourcrais, the only one hitherto known. Water partly precipitates the sulphur.

23. New milk scarcely absorbs one-tenth of its bulk of this air, and is not in the least coagulated.

24. With an equal bulk of vitriolic ether the bulk of the air is at first increased; but afterwards one-half is absorbed, and a slight precipitation appears. The smell is compounded of that of ether and hepatic air; but on adding water it becomes very offensive, resembling that of putrefying animal substances.

25. On adding a measure and an half of nitrous solution of silver to one of hepatic air, the latter was absorbed immediately, and without any agitation, the solution at the same time becoming black. The remaining air admitted a candle to burn naturally in it. Hepatic air was likewise absorbed, but with more difficulty, and in smaller quantity, by the vitriols of iron and silver; the latter was blackened; the former became white at first, but darker by agitation; the residuum burned blue, as hepatic air usually does.

Hepatic
Air.

Hepatic
Air.

26. Sulphurated spirit of wine precipitates lime-water, which highly rectified spirit of wine will also do by itself. It also precipitates and gives a brown colour to acetous baro-selenite, which is likewise done by spirit of wine: the solution of silver is turned black or brown by it. Sulphur is precipitated from it by concentrated vitriolic acid, which cannot be done either by the nitrous or muriatic acids.

27. Water saturated with hepatic air turns the tincture of litmus red; does not affect lime-water; forms a cloud in the solution of acetous baro-selenite, though not in that of the marine: it does not alter the solutions of other earths. It produces a white precipitate in the solution of vitriol of iron, or solution of that metal in spirit of salt: in nitrous solution of copper it throws down a brown precipitate, and the colour of the liquid is changed from blue to green; the precipitate being redissolved by agitation. In solution of vitriol of copper it forms a black precipitate. It throws down a yellowish white precipitate in solution of tin in aqua-regia; a black one from solution of gold; a red and yellow one from that of antimony; and one of red mixed with white from solution of platina. Black precipitates are formed with nitrous solutions of lead and silver; but if these are not perfectly saturated with metal, the solutions will be brown, or reddish brown, and may be redissolved by agitation. Nitrous solution of mercury is precipitated of a yellowish brown; corrosive sublimate of a yellow mixed with black, but which becomes white by agitation. Nitrous solution of bismuth becomes reddish brown, and even assumes a metallic appearance. Solution of cobalt becomes dark; that of arsenic in nitrous acid becomes yellow, mixed with red and white; forming realgar and orpiment. On dropping into hepatic water oil of vitriol of the specific gravity of 1.863, the mixture becomes slightly turbid; but on dropping into it the volatile vitriolic acid, a bluish white and much denser cloud is formed. A copious white precipitation is occasioned by the strong nitrous acid, whether phlogisticated or not; but dilute nitrous acid produces no change. Green nitrous acid, the specific gravity 1.328, instantly produces sulphur. A slight cloud is produced by strong marine acid; but neither distilled vinegar nor acid of sugar has any such effect. According to Mr Bergman, hepatised water, in a well closed vessel, will dissolve iron in a few days; but the experiment did not succeed with Mr Kirwan, neither could he dissolve any other metal in this water, though the sulphur united with many of them into an insoluble mass; whence our author concludes, that metallic substances cannot be found in hepatised waters.

28. Colourless alkaline liquors acquire a brownish tinge from hepatic air; the residuum they leave being of the same nature with what they absorb. A caustic fixed alkaline liquor, saturated with this air, precipitates barytes from the acetous acid of a yellowish white colour; decomposing likewise other earthy solutions, and the precipitate varying according to their purity; a test which our author supposes may be improved to such a degree as to supply the place of the Prussian alkali. It precipitates also solution of vitriol of iron as well as marine salt of iron, of a black colour; but the latter generally whitens by agitation. Solutions of silver and lead are also precipitated black with some mix-

ture of white: that of gold is also blackened; and solution of platina becomes brown. Solutions of copper let fall a reddish black or brown precipitate. Sublimate yields a precipitate partly white and black, and partly orange and greenish. A nitrous solution of arsenic forms a yellow and orange precipitate; and that of regulus of antimony in aqua regia, an orange precipitate mixed with black. Nitrous solution of zinc yields a dirty white precipitate; that of bismuth a brown mixed with white; and that of cobalt a brown and black precipitate. Prussian alkali yields a purple precipitate, which is easily redissolved. Tincture of radishes, our author's test for alkalies, was turned green.

29. On adding a few grains of iron, copper, lead, tin, zinc, bismuth, regulus of antimony, and arsenic, to a solution of liver of sulphur, all the metals were found to attract sulphur from the fixed alkali, excepting zinc and tin. Iron, arsenic, regulus of antimony, and lead, were most altered; copper next, and bismuth the least. No part of the metals appeared to be dissolved.

30. Water saturated with the condensed residuum of alkaline and hepatic air, i. e. with the purest volatile liver of sulphur, does not precipitate marine selenite, though it forms a slight brown and white cloud in that of marine baro-selenite. It throws down a black precipitate in solution of vitriol of iron, and a black and white one in that of marine salt of iron; but by agitation this became entirely white. Vitriol of copper, and nitrous salt of the same metal, are both precipitated of a brown and red colour. Tin dissolved in aqua-regia yields a yellowish precipitate; gold, a dilute yellow and reddish brown; platina, a flesh-coloured precipitate; and regulus of antimony, a yellowish red. Silver is precipitated black, as well as lead, from the nitrous and acetous acids. Corrosive sublimate became red for a moment; but in a little time its precipitate appeared partly black and partly white. A similar precipitate is afforded also by the nitrous solution of bismuth; but partly mixed with a reddish-brown colour, and has something likewise of a metallic appearance; the precipitate of cobalt is black, or deep brown. Solutions of arsenic yield precipitates of a yellow colour, and more or less red; those of zinc of a dirty white.—All these colours, however, vary, as the liquors are more or less saturated previous to and after their mixture, and the time they have stood together.

From these experiments Mr Kirwan concludes, that hepatic air consists merely of sulphur rarefied by elementary fire, or the matter of heat. Some have supposed that it consists of liver of sulphur itself volatilised; but this our author denies, for the following reasons: 1. It is evidently, tho' weakly, acid; reddening litmus, and precipitating acetous baro-selenite, though none of the other solutions of earths. 2. It may be extracted from materials which either contain no alkali at all, or next to none; as iron, sugar, oil, charcoal, &c. 3. It is not decomposed by marine or fixed air; by which nevertheless liver of sulphur may be decomposed.

Our author informs us, that he was formerly of opinion that sulphur was held in solution in hepatic air, either by means of vitriolic or marine air: but neither of these is essential to the constitution of hepatic air as such, since it is producible from materials that contain neither of these acids; and from whatever substance

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it is obtained, it always affords the same character, viz. that of the vitriolic acid exceedingly weakened, such an acid as we may suppose sulphur itself to be. This substance indeed, even in its concrete state, manifests the properties of an acid, by uniting with alkalies, calcareous and ponderous earths, as well as with most metals, which a very weak acid might be supposed to do.

As phosphorus bears a considerable resemblance in its constitution to sulphur, Mr Kirwan determined to make some experiments upon it in similar circumstances. He therefore gently heated 10 or 12 grains of phosphorus mixed with about half an ounce of caustic fixed alkaline solution in a very small vial furnished with a bent tube, and received the air over mercury. Two small explosions took place on the first application of heat, attended with a yellow flame and white smoke, which penetrated through the mercury into the receiver. This was followed by an equable production of air; but at last the phosphorus began to swell and froth up, burst with a loud explosion, and a violent flame immediately issued from it. Only about eight cubic inches of air were obtained. These were but very slightly diminished by agitation in water; after which a cloudiness took place, but the air soon recovered its transparency. Water impregnated with it slightly reddened tincture of litmus, but did not affect Prussian alkali. It had no effect upon the nitrous solutions of copper, lead, zinc, or cobalt; nor on those of iron or tin in marine acid and aqua-regia; nor on the vitriolic solutions of iron, copper, tin, lead, zinc, regulus of antimony, arsenic, or manganese; nor on the marine solutions of iron, copper, lead, zinc, cobalt, arsenic, or manganese. The nitrous solution of silver was precipitated of a black colour, and the vitriolic of a brown: nitrous solution of mercury, made without heat, precipitated a brown or black powder; but vitriol of mercury first became reddish, and afterwards white: corrosive sublimate a yellow mixed with red and white. Gold dissolved in aqua-regia is precipitated of a purplish black, and in the vitriolic acid of a brownish red and black; but regulus of antimony dissolved in aqua-regia is precipitated of a white colour. Nitrous solution of bismuth let fall a sediment at first white, and afterwards brown; vitriol of bismuth and marine salt of bismuth were also precipitated brown, the latter being redissolved by agitation. Nitrous solution of arsenic also became brown, but the precipitate was redissolved by agitation. On impregnating water with this air, without allowing the air to burn over it, the liquid scarcely made any alteration in tincture of litmus, nor did it precipitate lime-water; but caused a black precipitate in solution of silver; a white one in solution of regulus of antimony in aqua-regia, and a whitish yellow one in that of corrosive sublimate.

On letting up a measure of water to this air, and through that some bubbles of common air, every bubble flamed, and produced a white smoke until about half the quantity of common air was introduced that had been used of phosphoric; but without any apparent increase of the original bulk. The flame produced a small commotion each time, and smoke descended after the inflammation into the water; the smoke still continuing to be produced on the introduction of common air, after the flame had ceased. Bubbles of phosphoric air, escaping through mercury in-

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to the atmosphere, flame, crackle, and smell, exactly like the electric spark. This property of phosphoric hepatic air was known to M. Gingembre in the year 1783.

On letting up half a measure of nitrous to one of phosphoric air, a white smoke appeared, with a very slight diminution; the transparency being soon restored, and a slight scum deposited on the sides of the jar. No smoke or diminution was produced by adding another half measure of nitrous air; but on adding water, and agitating the air in it, much more was absorbed. On turning up the jar, the nitrous air first escaped in form of a red vapour, and this was followed by a whitish smoke. The water had a phosphoric smell, and precipitated the solution of silver brown.

An equal measure of alkaline air scarce diminished phosphoric air; and on adding water, little more seemed to be taken up than the alkaline air, though a smoke appeared on turning up the jar, but without any flame. Water thus impregnated smelled exactly like onions, and turned the tincture of radishes green. Solution of silver was precipitated of a black colour; that of copper in the nitrous acid, of a brown; the precipitate being redissolved by agitation, and the liquor then assuming a green colour. Corrosive sublimate let fall a yellow precipitate mixed with black. Iron was precipitated white both from the vitriolic and marine acids; but a pale yellow solution of it in the nitrous acid was not affected, and a red solution in the same acid was only clotted. Regulus of antimony was precipitated of a white colour from aqua-regia, cobalt of a slight reddish from the nitrous acid, and bismuth of a brown colour from the same. Neither the nitrous solutions of lead or zinc were affected; nor those of tin in the marine acid or in aqua-regia. Fixed air, mixed with an equal proportion of phosphoric air, produced a white smoke, some diminution, and a yellow precipitate. On agitating the mixture in water the fixed air was taken up all to one-tenth; the residuum smoked, but did not take fire.

Some precipitate *per se* being introduced to a small portion of phosphoric air, the former soon grew black, and a white smoke appeared. In two days the precipitate became solid, acquiring a pale white colour, shining like steel. The air lost its inflammability; though Mr Kirwan supposes that this might be owing to some other cause: for two days after this air was made, a yellow scum was observed on the sides of the jar in which a quantity of it had rested all night over water; and the spontaneous inflammability was lost next morning. The temperature of the air was then 53°; and when it inflamed before 68°.

From these experiments our author concludes, that phosphoric air is nothing else but phosphorus itself in an aerial state; differing from sulphureous or hepatic air in this, that it requires much less latent heat to throw it into an aerial state, and therefore may be disengaged from fixed alkalies without any acid.

Hepatic air may be obtained in a great number of different ways, and from a variety of substances. The most common method in which it has been procured, is by decomposing the hepar sulphuris or combination of sulphur and fixed alkaline salt by means of an acid. Mr Kirwan has examined the circumstances attending the formation of liver of sulphur; making his first ex-

periment

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periment by melting together equal parts of the mineral alkali and flowers of sulphur in a covered crucible. On slightly heating the mixture, it emitted a bluish smoke, which gradually became whiter as the heat was augmented; and at last, when the bottom of the crucible became slightly red, the smoke was perfectly white and inflammable. To investigate the nature of this smoke, a pure fixed alkali was made by deflagrating equal parts of cream of tartar and nitre in a red-hot crucible in the usual way. This alkali, in a very dry state, was mixed with a small quantity of flowers of sulphur, and the mixture distilled in a small coated retort; the air being received over quicksilver.

On the first application of heat, one cubic inch and an half of slightly phlogisticated air was obtained, but without any fixed air. This was the common air contained in the vessels, but altered by being in contact with the alkali and sulphur. On augmenting the heat, about 18 inches of air were obtained, of a reddish colour, seemingly a mixture of nitrous and common air; acting slightly on mercury. After this, 20 cubic inches of the same kind mixed with some fixed air were obtained. These were succeeded by 64 inches of fixed air almost perfectly pure. The bottom of the retort was now red-hot; some sulphur was sublimed in the neck; and when all was cold, an hepar sulphuris was found in the bulb.

From this experiment Mr Kirwan concludes, that the blue smoke above mentioned consists chiefly of fixed air and the white of sulphur; but that neither hepatic nor vitriolic air are formed unless the retort be large enough to admit as much air as is necessary for burning part of the sulphur. He concludes also, that hepar sulphuris will yield no hepatic air unless with the help of an acid; "and I believe this (says he) to be true, when the experiment is made in the dry way, and nearly so in the moist way: for having added 200 grains of sulphur to a concentrated solution of strong caustic vegetable alkali by a strong and long-continued heat, I obtained only one cubic inch of hepatic air; yet it is well known, that a strong solution of liver of sulphur constantly emits an hepatic smell, even in the temperature of the atmosphere; and the substance so emitted contains as much hepatic air as discolours silver and lead, and even their solutions; which shows that an incomparably small quantity of this air is sufficient to produce the effect. To discover whether this extrication of hepatic air might be caused by the deposition of fixed air from the atmosphere, I threw some pulverised calcareous hepar into aerated water, and by the application of heat endeavoured to obtain hepatic air, but in vain: and indeed the very circumstance that the hepatic smell and its effects are always strongest the first instant that a bottle of the hepatic solution is opened, seems to indicate that fixed air is no way concerned in its production. The best liver of sulphur is made of equal parts of salt of tartar and sulphur; but as about one-fifth of the salt of tartar consists of air which escapes during the operation, it seems that the proportion of sulphur predominates in the resulting compound; yet, as some of the sulphur also sublimes and burns, it is not easy to fix the exact proportion. One hundred grains of the best, that is to say the reddest liver of sulphur, afford with dilute marine acid about 40 inches of hepatic air in the tem-

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perature of 60°; a quantity equivalent to about 13 grains of sulphur, as will be seen in the sequel."

Hepatic air is best produced by marine acid: the concentrated nitrous acid produces nitrous air; but if diluted with 20 times its bulk of water, it produces the hepatic kind by the assistance of heat. Concentrated vitriolic acid poured upon liver of sulphur affords but little hepatic air without the assistance of heat; though it constantly decomposes the hepar: "and (adds our author) it is partly for this reason that the proportion of air is so small; for it is during the gradual decomposition of sulphureous compounds that hepatic air is produced." Hepatic air, but not in a pure state, is extricated by distilled vinegar; its smell being mixed with that of the vegetable acid. Some quantity of this air is produced by the saccharine acid in the temperature of 59°, and by sedative salt in that of boiling water or nearly so; but neither the arsenical nor aerial acids produce any.

Having prepared some hepar sulphuris with an over proportion of sulphur, an hepatic air was procured by means of concentrated vitriolic acid; but so loaded with sulphur, that it deposited some in the tube through which it was transmitted, and on the upper part of the glass receiver. On transferring it to another receiver, though then perfectly clear and transparent, in quantity about six cubic inches, yet next morning it was reduced to one inch, the inside of the glass being covered with a thick coat of sulphur; the small quantity of elastic fluid which remained being changed from hepatic to vitriolic air. "Hence (says Mr Kirwan) it appears, first, that a species of elastic fluid may exist in a state intermediate between the aerial and vaporous, which is not permanently elastic like air, nor immediately condensed by cold like vapour; but which, by the gradual loss of its specific heat, may be reduced to a concrete form. 2. That so large a quantity of sulphur may be combined with vitriolic air, as to enable it to exhibit the properties of hepatic air for some time at least. A mixture of three parts of pulverised quicklime and one of sulphur, heated to whiteness in a covered crucible for one hour, became of a stony hardness; and, being treated with marine acid, afforded hepatic air. On heating a piece of this stone in pure water, it becomes bluish; and hence the origin of blue marles generally found near hot sulphurated waters. A calcareous hepar may also be formed in the moist way."

Magnesia deprived of its fixed air, and heated in the same manner with sulphur, afforded no hepatic air. It was procured, however, from a mixture of three parts of iron-filings and one of sulphur melted together, and treated with marine acid. This sulphurated iron dissolved in marine acid affords almost entirely hepatic air, and very little of the inflammable kind. Equal parts of iron-filings and sulphur mixed together, and made into a paste with water, after heating and becoming black, afforded hepatic air when an acid was poured on it; but this was mixed with inflammable air, probably proceeding from uncombined iron. After a few days this mixture lost its power of producing hepatic air. Mr Bergman has also remarked, that combinations of sulphur with some other metals yield hepatic air.

Hepatic air was obtained by pouring some olive-oil upon a few grains of sulphur, and heating the mixture

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in a vial with a bent tube. It was likewise obtained in great plenty from equal parts of sulphur and powdered charcoal, out of which the air had previously been expelled as much as possible: "yet (says our author) it is hardly possible to free charcoal wholly from foreign air, for it soon reattracts it when exposed to the atmosphere."

Six grains of pyrophorus mixed with alum and sugar effervesced with marine acid, and afforded two cubic inches and an half of hepatic air. This pyrophorus had been made six years before, and was kept in a tube hermetically sealed, and for several summers exposed to the light of the sun. It was so combustible, that some grains of it took fire while it was introduced into the vial out of which the hepatic air had been expelled.

A mixture of two parts of white sugar (previously melted in order to free it of water) with one part of sulphur, when heated to about 600 or 700 degrees, gave out hepatic air very rapidly. This air had a smell very much resembling that of onions, but contained neither fixed air nor any other acid. Sugar and sulphur melted together gave out no hepatic air when treated with acids. Water, spirit of wine, and marine acid, decompose this mixture, dissolving the sugar, and leaving the sulphur.

Twelve grains of sulphur heated in a retort, filled with metallic inflammable air, afforded no hepatic air; though the retort smelled of it when cold, and for some time after.

Eighteen grains of liver of sulphur exposed for four days to six cubic inches of fixed air, the thermometer at 70°, was somewhat whitened on the surface; the air not having an hepatic smell, but rather that of bread. It seemed to have taken up some sulphur, which was separated by lime-water. It was not in the least diminished; and therefore seems to have received an addition of hepatic air, or rather of sulphur.

On exposing a quantity of sulphureo-martial paste to fixed air for five days, the latter was not at all diminished, but received a slight addition of inflammable air. The paste itself, taken out of this air and exposed to the atmosphere, heated very strongly.

Three grains of sulphur exposed to twelve inches of marine air was not diminished in four days. On adding a cubic inch of water to this air, it was all absorbed to one inch, which had an hepatic smell, as had also the water, the latter evidently containing sulphur.

Hepatic air is found naturally in coal-pits, and has been discovered by Mr Bergman to be the principle on which the sulphureous properties of many mineral waters depend. There is also great reason to think that it is the peculiar production of the putrefaction of many, if not all, animal substances. Rotten eggs and corrupted water are known to emit this species of air, and also to discolour metallic substances, in the same manner. M. Viellard has lately discovered several other indications of this air in putrefied blood. In the 80th volume of Philosophical Transactions, p. 391. Dr Crawford gives an account of some experiments, from which it appears, that a kind of hepatic air is contained in the virus of cancers. Having obtained a portion of this ichor from a cancerous breast, he divided it into three parts, which were put into separate vials after being properly diluted with water. To one

of these he added some vegetable fixed alkali, to another a little concentrated vitriolic acid, and to the third some syrup of violets. No change was produced by the vegetable alkali; but on the addition of the acid, a deep brown colour was produced, and a brisk effervescence took place, at the same time that the peculiar odour of the cancerous matter was greatly augmented, and diffused itself to a considerable distance. A faint green colour was communicated to the third portion which had the syrup of violets.

As the cancerous matter on which these experiments were made had been previously kept some days, Dr Crawford suspected that it might thus have acquired its alkaline property; as Mr Geber has shown, that animal substances, when newly putrefied, do not contain any alkali. He repeated the experiment, therefore, on some matter recently procured from a cancerous penis. A manifest effervescence, though less than the foregoing, also took place in this case; the liquor acquired a brown colour, and the fetor increased. A portion of the same matter, diffused through distilled water, communicated a green colour as before; but in some cases the change was scarcely perceptible, though in all the experiments which were made the existence of an alkali one way or other was manifested.

The air extricated from the cancerous matter seemed by its smell to resemble rotten eggs more than any other species; but to investigate the matter fully, some portion of the virus was diffused through distilled water, the liquor filtered, and a small quantity of nitrous solution of silver dropped into it. An ash-coloured precipitate soon appeared diffused like a cloud through the liquid, and at the end of two hours the colour of the mixture was changed to a deep brown. The fetid smell was now rendered much fainter, and was entirely destroyed by an addition of concentrated nitrous acid, or by dephlogisticated spirit of salt; either of which substances would also have destroyed the smell of hepatic air.

On adding the vitriolic acid to common pus, no effervescence was produced, nor was the colour of the liquor changed, neither did any sensible precipitation take place for several hours. On repeating the experiment, however, with matter obtained from a venereal bubo, the liquid became slightly turbid on the addition of nitrated silver, and at the end of two hours it had acquired a brownish cast. The same effects took place with the matter which issued from a carious bone; but in both cases the precipitation was much less than with the cancerous matter.

To procure some quantity of the air in its separate state, a quantity of reddish cancerous matter was mixed with about thrice its weight of distilled water. On adding a little vitriolic acid to this mixture, an effervescence ensued, and the air was received in a vial over mercury. When one-half of the mercury was expelled from the vial, the latter was inverted over distilled water; and the portion of mercury that remained in it being suffered to descend, and the water to rise into its place, the vial was closely corked. The air and water were then briskly agitated together; and the vial being a second time inverted over distilled water, the cork was removed. It now appeared, by the height to which the water rose, that part of the air had been absorbed; and on dropping in a little nitrated

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ted silver into it, a purplish cloud, inclining to red, was produced. In this experiment, the change of colour was at first scarcely perceptible, but became very distinct in a few minutes. The quantity of aerial fluid, however, which can thus be extricated by the addition of acid without heat is not very considerable: if heat be applied, a larger quantity of elastic fluid will be produced, having the smell of cancerous matter; but in that case it will be mixed with vitriolic acid air.

To obtain this air in as pure a state as possible, a portion of the cancerous virus, properly diluted with distilled water, was introduced into a small vial, a little vitriolic acid added, the vessel filled with distilled water, and a crooked tube also filled with water fitted to its neck. The extremity of the tube being then introduced into the neck of a bottle inverted in water, and the flame of a candle applied to the bottom of the vial, air began to rise in white bubbles, having a very fetid smell similar to that of cancerous matter; and the water impregnated with it occasioned a dark brown precipitate in a solution of nitrated silver. On separating the crooked tube from the vial, a very offensive white vapour, resembling in smell the air produced in the foregoing experiment, arose from the mixture, and continued to ascend for near half an hour. A portion of the liquor filtered, and mixed with a little concentrated nitrous acid, had its smell entirely destroyed; a slight effervescence being produced, and a flaky substance separated from the liquor and floating through it.

On examining the alkaline matter which had been separated from the cancerous virus, it was found, as had indeed been concluded *à priori*, to be the volatile alkali. It seemed probable that this alkali was united to the fixed air with which the cancerous matter was impregnated, because the peculiar smell of the matter was greatly augmented by the addition of the vitriolic acid; and this was confirmed by the following experiments.

1. A portion of cancerous matter was diffused through distilled water, and distilled in a small retort with a graduated heat until the bottom of the vessel became red hot. The common air, which first came over, was greatly impregnated with the smell of the cancerous matter: however, its qualities were not greatly impaired by the test of nitrous air; two measures of it, with one of nitrous air, occupying the space of little less than two measures. When the water began to boil, a large quantity of aqueous vapour arose; which, as soon as it came into contact with the air, produced a white smoke. The smell was now perceived to be similar to that of boiled animal substances; but no permanently elastic fluid was mixed with the aqueous vapour. When the greater part of the water was evaporated, the jar containing the first portion of air was removed, and the neck of the retort introduced beneath an inverted vessel filled with mercury. A considerable quantity of air smelling like burnt bones was now extricated, which was mixed with a yellow empyreumatic oil. On agitating some of it with water, part of the air was imbibed. Nitrated silver, dropped into the water thus impregnated, produced a reddish precipitate.

2. One measure of the air obtained in the foregoing

experiment was mixed with an equal quantity of alkaline air. In three hours the whole occupied only the bulk of one measure and two-tenths, and an oily scum was now left upon the inner surface of the tube; and in eight days the interior surface of the tube was covered with slender films of a yellowish colour spread irregularly upon it. The upper surface of the mercury within the tube was corroded; in some places having a reddish burnished appearance, in others it was changed into an ash-coloured powder interspersed with brown spots. On removing the tube from the mercury, the air that remained in it had a strong fetid smell, resembling that of burned bones.

3. To discover whether other animal substances yield an aerial fluid similar to that produced from the cancerous virus, a portion of the flesh of the neck of a chicken was distilled in a small coated glass-retort till it became red hot. A thin phlegm of a yellowish colour first came over: this was succeeded by a yellow empyreumatic oil; and at the same time a permanently elastic fluid, smelling like burned feathers, began to be disengaged. A slip of paper tinged with litmus, and reddened by acetic acid, being held over this fluid, presently became blue. The remainder of the air was very fetid, and highly inflammable. By agitation in water one-half of it was absorbed; the remainder was inflammable, and burned first with a slight explosion, and afterwards with a blue lambent flame. On dropping a nitrous solution of silver into the water impregnated with this air, the mixture deposited a brown precipitate.

4. On treating putrid veal by distillation with a graduated heat, the products were found to be nearly similar to those already mentioned. The air obtained was highly inflammable, about one-half of it was absorbed by water; and the liquid thus impregnated let fall a brown precipitate on the addition of nitrous solution of silver. On adding some dephlogisticated marine acid to another portion of this liquor, a brisk effervescence took place, and a whitish gelatinous matter was separated: and this substance being evaporated to dryness, became black on the addition of the concentrated vitriolic acid. On agitation with water, part of the air was absorbed as in the former experiment, and the remainder burned with a lambent flame. This air, however, extricated from putrid veal, had less of an empyreumatic smell than that which was disengaged from fresh animal substances, being rather like that of putrefying animal matters.

From these experiments our author concludes, that the air extracted from animal substances consists of two distinct fluids, the one soluble and the other insoluble in water. The insoluble part burns with a lambent flame, and has all the characters of heavy inflammable air: but the soluble part resembles that which is produced from cancerous matter by the vitriolic acid; having a fetid odour, decomposing nitrated silver, combining with caustic volatile alkali, and possessing many of the properties of common hepatic air. In many particulars, however, the animal hepatic air differs from the common. The smell is considerably different, and in the decomposition of animal hepatic air no sulphur is separated, but a kind of flaky matter which is evidently an animal substance, as turning black by the vitriolic acid. The following experiment is a decisive

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Air.

proof that no sulphur is contained in animal hepatic air. "Equal parts of pure air, and of air extricated from fresh beef by distillation, were fired by the electric shock in a strong glass tube over mercury. A little distilled water was then introduced through the mercury into the tube, and was agitated with the air which it contained. A portion of this water being filtered, and a small quantity of muriated barytes being dropped into it, the mixture remained perfectly transparent. Hence it appears, that the air extricated by distillation from fresh beef does not contain sulphur, as that substance would have been changed by burning into the vitriolic acid, and the muriated barytes would have been decomposed. The same experiment was frequently repeated with air extricated by distillation from the putrid as well as from the fresh muscular fibres of animals; but in no instance could the least vestige of vitriolic acid be discovered.

5. To analyse in a more perfect manner these kinds of animal airs, and to determine their products when combined with pure air, about an ounce of the lean of fresh mutton was exposed to a red heat in a small coated glass retort. Very near one half of the air produced towards the end was absorbed by water, and two-thirds of that which came over about the middle. A separate portion of the air, disengaged towards the end of the distillation, being allowed to remain over mercury for seven hours, it was found gradually to diminish in bulk; and a fluid, having the colour and smell of a thin empyreumatic oil, was collected at the bottom of the jar. This appearance, however, is not constant: the air, when placed over mercury, sometimes diminishes, and at other times retains its original bulk. Only one eighth part of this air was absorbed by water. "Hence (says the Doctor) it appears, that a portion of the air extricated from animal substances by heat, resembles a species of hepatic air which was first discovered by Mr Kirwan, and which exists in an intermediate state between the aerial and the vaporous; this fluid not being permanently elastic like air, nor immediately condensed by cold like vapour, but gradually assuming the nonelastic form, in consequence probably of the tendency of its several parts to unite with one another."

6. To determine the proportion of fixed air contained in that produced from the lean of animal substances, a quantity of air extracted from mutton was received over mercury in a large vial with a narrow neck. When the vial was little more than half filled, the remaining portion of the mercury was displaced by introducing water that had been previously boiled. The vial being then closely corked, the air and water were briskly agitated together; and the liquor, thus impregnated with the soluble part of the animal air, was put into a vial to the bottom of which heat was applied. Thus a part of the air was again disengaged, and received in a tube inverted over mercury; and the process continued till the liquor no longer rendered lime-water turbid. On agitating the air a second time with water, and comparing the bulk after agitation with that before it, it appeared that the quantity absorbed was about one-fourth part. From this experiment also it appeared, that animal hepatic air, when once absorbed by water, is not capable of being again disengaged by a boiling heat; for after the fixed air

had all been expelled, the liquor was made to boil nearly for half an hour, but no permanently elastic fluid could be disengaged: that portion of the liquor which remained had a faint yellow colour, and smelled strongly of animal hepatic air, depositing also a brown precipitate upon the addition of nitrated silver. "It appears therefore (says the Doctor), that the soluble part of the air disengaged from animal substances by heat, consists of three distinct fluids; of alkaline air, fixed, and animal hepatic air. It seemed extremely probable, that these three aerial fluids, slowly combining together, formed the oily empyreumatic substance which was collected at the bottom of the jar, while the air was undergoing the diminution described above. In this conclusion I was confirmed by trials that were made with the empyreumatic oil that came over in the latter part of the distillation: for when it was examined by chemical tests soon after it was obtained, it was found to contain fixed air, volatile alkali, and animal hepatic air."

7. To determine the products resulting from the combustion of pure air with the animal hepatic air, one portion of the air extracted from the lean of mutton was agitated with water, the other was not. One measure of the former was introduced over mercury into a strong glass tube, and then mixed with one measure and an half of pure air. A small shock being made to pass through it, a violent explosion took place; and the space occupied by the air in the tube was reduced from an inch and two-tenths to nine-tenths of an inch. On agitating the residuum with water, six-tenths were absorbed; and the portion absorbed appeared to be fixed air by its precipitating lime-water. Five parts of nitrous air being mixed with an equal quantity of the insoluble residuum, a diminution of three parts took place; whence it appears that one-fifth of the insoluble residuum was pure air. Hence it appears that fixed air was produced by the inflammation of dephlogisticated and animal hepatic air.

8. One measure of that portion of animal air which had not been agitated with water was mixed with a measure and an half of pure air, and fired by the electric shock. Previous to the deflagration, the two airs occupied the space of 1.15 inches, but afterwards it was reduced to 1.1. On agitation with water, about one-third was absorbed; a portion of the insoluble residuum burned with a faint blue flame.

9. As it appeared from these experiments, that a measure and an half of dephlogisticated air was not sufficient to saturate one of the animal air that had not been agitated with water, the experiment was repeated in the following manner. Two parts of pure air, with one of the animal kind, occupied the space of eight-tenths of an inch; but when fired by the electric shock, the residuum stood at a little less than half an inch; and this residuum was almost wholly absorbed on agitation with lime-water. By a subsequent trial it was found, that nearly one-half of the animal air used in this experiment was soluble in water. When equal parts of pure and animal air were burned together, a considerable increase of bulk almost invariably took place; and when the animal was to the pure air as 2 to 15, the bulk of the mixture was increased one half. The residuum of the air was inflammable.

10. To investigate the cause of this augmentation of

Hepatic
Air.

Hepatic
Air.

of bulk, three measures of animal were mixed with two of pure air; and several strong electric shocks were made to pass through the mixture, but without being able to set it on fire. On adding half a measure more of pure air, it took fire; and the bulk was augmented from .9 to 1.3 inches. Three measures of the residuum were then mixed with three of pure air, and the mixture fired by the electric shock; the bulk of the mixture being reduced from one inch to .56. On agitation with lime-water, two-thirds were absorbed, and the remainder consisted almost entirely of pure air.

11. Having accidentally taken two or three small shocks through some alkaline air, and not observing any sensible increase of bulk, the Doctor mixed it with an equal quantity of pure air, not apprehending that any decomposition had taken place. Contrary to expectation, however, the two fluids entered rapidly into combination with each other the moment that the electric shock was made to pass through them. The jar, which he held loosely in his hand, as it was inverted over the jar, was carried obliquely upward with great violence; the stand of the prime conductor was broken, and the cylinder shivered into a thousand pieces. The experiment, however, was afterwards safely repeated with a very strong apparatus; the jar being pressed down with a plate of iron for the purpose of retaining it in its place.

"It appeared (says the Doctor), that when the alkaline and pure air were immediately mixed together, and a small shock was made to pass through them, they would not take fire; but when three or four shocks were previously taken through the alkaline air, and the latter was afterwards mixed with an equal quantity of pure air, they exploded with great violence. One-sixth of the residuum was alkaline, the remainder phlogisticated air."

Several other experiments are related by the Doctor in this paper, which tend to show that animal hepatic air is extricated in large quantity by the process of putrefaction. By distilling a green cabbage leaf, he also obtained an aerial fluid, in most of its properties resembling animal hepatic air. The fetid smell of this gas is destroyed by suffering it to remain in contact with pure air for several weeks; and so effectually by the vapour of dephlogisticated marine acid, that he was induced to try the efficacy of this fluid as an application to cancers. In some cases it appeared to be of service, though some ulcerated cancers were found so irritable, that they could bear no application whatever. The liquid itself appears to be unsafe when taken inwardly. Dr Crawford having taken 20 drops of it largely diluted with water, found himself affected with an obtuse pain and sense of constriction in his stomach and bowels, which resisted the use of emetics and laxatives, but yielded to sulphureous water. He found afterwards, that the manganese which had been used in the distillation of the acid, contained a small quantity of lead. He relates also, on the authority of Dr Ingenhousz, that a Dutchman of his acquaintance some time ago drank a considerable quantity of the dephlogisticated marine acid; the effects it produced were so violent, that he narrowly escaped with his life. These deleterious qualities our author ascribes to lead; though it can by no means be proved that manganese

is more innocent: and it is also exceedingly probable that some of this semimetal rises in the preparation of what is called the *dephlogisticated* or *oxygenated* marine acid.

HEPATIC Aloes, the inspissated juice of a species of *ALOE*.

HEPATIC Stone. See *LIVER Stone*.

HEPATIC Water. See *HEPAR Sulphuris*.

HEPATICA, in botany, a species of *ANEMONE*.

HEPATITIS, in medicine, an inflammation of the liver. See *MEDICINE Index*.

HEPATOSCOPIA (formed of *παρ* liver, and *σκοπία* I consider), in antiquity, a species of divination, wherein predictions were made by inspecting the livers of animals.

HEPATOSCOPIA is also used as a general name for divination by intrails.

HEPHÆSTIA, in Grecian antiquity, an Athenian festival in honour of Vulcan, the chief ceremony of which was a race with torches. It was performed in this manner: The antagonists were three young men, one of whom, by lot, took a lighted torch in his hand, and began his course; if the torch was extinguished before he finished the race, he delivered it to the second; and he in like manner to the third: the victory was his who first carried the torch lighted to the end of the race; and to this successive delivering of the torch we find many allusions in ancient writers.

HEPHTHEMIMERIS (composed of *επτα* seven, *μιμν* half, and *μερ* part), in the Greek and Latin poetry, a sort of verse consisting of three feet and a syllable; that is, of seven half feet.

Such are most of the verses in Anacreon:

Θελω	λεγειν	Ατρε	δασ
Θελα	δε Κας	μον α	διν, &c.

And that of Aristophanes, in his *Plutus*:

Επισθι μντρε χοιροι.

They are also called *trimetri catalectici*.

HEPHTHEMIMERIS, or *Hepththemimeres*, is also a *cæsura* after the third foot; that is, on the seventh half-foot. It is a rule, that this syllable, though it be short in itself, must be made long on account of the *cæsura*, or to make it an *hepthemimeris*. As in that verse of Virgil.

Et furis agitalus amor, et conscia virtus.

It may be added, that the *cæsura* is not to be on the fifth foot, as it is in the verse which Dr Harris gives us for an example:

Ille latus nixum molli fultus Hyacintho

This is not a *hepththemimeris cæsura*, but a *henneamimeris*, i. e. of nine half feet.

HEPTACHORD, in the ancient poetry, signified verses that were sung or played on seven chords, that is, on seven different notes. In this sense it was applied to the lyre when it had but seven strings. One of the intervals is also called an *heptachord*, as containing the same number of degrees between the extremes.

HEPTAGON, in geometry, a figure consisting of seven sides, and as many angles. In fortification, a place is termed an *heptagon*, that has seven bastions for its defence.

HEPTAGONAL NUMBERS, in arithmetic, a sort of polygonal numbers, wherein the difference of the terms of the corresponding arithmetical progression is

Hepatica
||
Heptagonal.

Heptandria
||
Heracleo-
nites.

5: One of the properties of these numbers is, that if they be multiplied by 40, and 9 be added to the product, the sum will be a square number.

HEPTANDRIA, in botany (from *ἑπτα* *septem*, and *ανδρ* *a man*); the seventh class in Linnæus's sexual method, consisting of plants with hermaphrodite flowers, which have seven stamina or male-organs. The orders are four, derived from the number of styles or female-organs.

HEPTANGULAR, in geometry, an appellation given to figures which have seven angles.

HEPTARCHY (compounded of the Greek *ἑπτα*, "seven," and *αρχη*, *imperium*, "government"), a government composed of seven persons, or a country governed by seven persons, or divided into seven kingdoms.

The Saxon heptarchy included all England, which was cantoned out into seven petty independent kingdoms, peopled and governed by different clans and colonies; *viz.* those of Kent, the South Saxons, West Saxons, East Saxons, Northumberland, the East Angles, and Mercia. The heptarchy was formed by degrees from the year 455, when first the kingdom of Kent was erected, and Hengist assumed the title of king of Kent immediately after the battle of Eglesford; and it terminated in 827 or 828, when king Egbert reunited them into one, made the heptarchy into a monarchy, and assumed the title of king of England. It must be observed, however, that though Egbert became monarch of England, he was not perfectly absolute. The kingdom which he actually possessed consisted of the ancient kingdoms of Wessex, Sussex, Kent, and Essex, that had been peopled by Saxons and Jutes. As for the other three kingdoms, whose inhabitants were Angles, he contented himself with preserving the sovereignty over them, permitting them to be governed by kings who were his vassals and tributaries.

The government of the heptarchy, reckoning from the founding of the kingdom of Mercia, the last of the seven Anglo-Saxon kingdoms, lasted 243 years; but if the time spent by the Saxons in their conquests from the arrival of Hengist in 449 be added, the heptarchy will be found to have lasted 378 years from its commencement to its dissolution. The causes of the dissolution of the heptarchy were the great inequality among the seven kingdoms, three of which greatly surpassed the others in extent and power; the default of male heirs in the royal families of all the kingdoms, that of Wessex excepted; and the concurrence of various circumstances which combined in the time of Egbert.

HERACLEA, an ancient city of Turkey in Europe, and in Romania, with the see of an archbishop of the Grecian church, and a sea-port. It was a very famous place in former times, and there are still some remains of its ancient splendor. Theodore Lascaris took it from David Comnenus, emperor of Trebisond; when it fell into the hands of the Genoese, but Mahomet II. took it from them; since which time it has been in the possession of the Turks. It is near the sea. E. Long. 27. 48. N. Lat. 40. 27.

HERACLEONITES, a sect of Christians, the followers of Heracleon, who relied upon the Gnostic divinity, and maintained that the world was not the immediate production of the son of God, but that he was only the occasional cause of its being created by

the demiurgus. The Heracleonites denied the authority of the prophecies of the Old Testament, maintaining that they were mere random sounds in the air; and that St John the Baptist was the only true voice that directed to the Messiah.

HERACLEUM, **MADNESS**: A genus of the digynia order, belonging to the pentandria class of plants; and in the natural method ranking under the 45th order, *Umbellatæ*. The fruit is elliptical, emarginated, compressed, and striated, with a thin border. The corolla is difform, inflexed, and emarginated; the involucre dropping off. There are five species, of which the most remarkable is the spondylium, or cow-parshnip. This is common in many parts of Britain, and other northern parts of Europe and Asia.—Gmelin, in his *Flora Siberica*, p. 214. tells us, that the inhabitants of Kamtschatka, about the beginning of July, collect the foot-stalks of the radical leaves of this plant, and, after peeling off the rhind, dry them separately in the sun, and then, tying them in bundles, dry them carefully in the shade: in a short time afterwards, these dried stalks are covered over with a yellow saccharine efflorescence, tasting like liquorice: and in this state they are eaten as a great delicacy.—The Russians not only eat the stalks thus prepared, but procure from them a very intoxicating spirit. They first ferment them in water with the greater bilberries (*vaccinium uliginosum*), and then distil the liquor to what degree of strength they please; which Gmelin says is more agreeable to the taste than spirits made from corn. This may therefore prove a good succedaneum for whisky, and prevent the consumption of much barley, which ought to be applied to better purposes.—Swine and rabbits are very fond of this plant. In the county of Norfolk it is called *bog-sweed*.

HERACLIDÆ, the descendants of Hercules, greatly celebrated in ancient history. Hercules at his death left to his son Hyllus all the rights and demands which he had upon the Peloponnesus, and permitted him to marry Iole as soon as he came of age. The posterity of Hercules were not more kindly treated by Euristheus than their father had been, and they were obliged to retire for protection to the court of Ceyx, king of Trachinia. Euristheus pursued them thither; and Ceyx, afraid of his resentment, begged the Heraclidæ to depart from his dominions. From Trachinia they came to Athens, where Theseus the king of the country, who had accompanied their father in some of his expeditions, received them with great humanity, and assisted them against their common enemy Euristheus. Euristheus was killed by the hand of Hyllus himself, and his children perished with him, and all the cities of the Peloponnesus became the undisputed property of the Heraclidæ. Their triumph, however, was short; their numbers were lessened by a pestilence; and the oracle informed them, that they had taken possession of the Peloponnesus before the gods permitted their return. Upon this they abandoned Peloponnesus, and came to settle in the territories of the Athenians, where Hyllus, obedient to his father's commands, married Iole the daughter of Eurystus. Soon after he consulted the oracle, anxious to recover the Peloponnesus; and the ambiguity of the answer determined him to make a second attempt. He challenged to single combat Atreus, the successor of Euristheus on the throne of Mycenæ.

Heraclides, cenæ; and it was mutually agreed that the undisturbed possession of the Peloponnesus should be ceded to who-
Heraclitus soever defeated his adversary. Echemus accepted the challenge for Atreus, and Hyllus was killed, and the Heraclidæ a second time departed from Peloponnesus. Cleodæus the son of Hyllus made a third attempt, and was equally unsuccessful; and his son Aristomachus some time after met with the same unfavourable reception, and perished in the field of battle. Aristodemus, Temenus, and Chresphontes, the three sons of Aristomachus, encouraged by the more expressive word of an oracle, and desirous to revenge the death of their progenitors, assembled a numerous force, and with a fleet invaded all Peloponnesus. Their expedition was attended with much success; and after some decisive battles, they became masters of all the peninsula. The recovery of the Peloponnesus by the descendants of Hercules forms an interesting epoch in ancient history, which is universally believed to have happened 80 years after the Trojan war, or 1190 years before the Christian era. This conquest was totally atchieved about 120 years after the first attempt of Hyllus, who was killed about 20 years before the Trojan war. As it occasioned a world of changes and revolutions in the affairs of Greece, insomuch that scarce a state or people but were turned upside down thereby, the return of the Heraclidæ is the epocha of the beginning of profane history: all the time that preceded it is reputed fabulous. Accordingly, Ephorus, Cumanus, Calisthenes, and Theopompus, only begin their histories from hence.

HERACLIDES of PONTUS, a Greek philosopher, the disciple of Speusippus, and afterwards of Aristotle, flourished about 336 B. C. His vanity prompted him to desire one of his friends to put a serpent into his bed just as he was dead, in order to raise a belief that he was ascended to the heavens among the gods; but the cheat was discovered. All his works are lost.

HERACLITUS, a famous Ephesian philosopher, who flourished about the 69th Olympiad, in the time of Darius Hystaspes. He is said to have continually bewailed the wicked lives of men, and, as often as he came among them, to have fallen a-weeping; contrary to Democritus, who made the follies of mankind a subject of laughter. He retired to the temple of Diana, and played at dice with the boys there; saying to the Ephesians who gathered round him, "Worst of men, what do ye wonder at? Is it not better to do thus than to govern you?" Darius wrote to this philosopher to come and live with him; but he refused the offer: at last, out of hatred to mankind, he retired to the mountains, where he contracted a dropsy by living on herbs, which destroyed him at 60 years of age. His writings gained him so great reputation, that his followers were called *Heraclitians*. Laertius speaks of a treatise upon nature, divided into three books, one con-

cerning the universe, the second political, the third theological. This book he deposited in the temple of Diana; and it is said, that he affected to write obscurely, lest it should be read by the vulgar, and become contemptible. The fundamental doctrine of his philosophy was, that fire is the principle of all things; and the ancient philosophers have collected and preserved admirable apophthegms of this philosopher.

HERACLIUS, emperor of the east, a renowned warrior, died A. D. 641. He carried on long and bloody wars with the Saracens, by whom he was almost always defeated. See ARABIA, n° 67—93.

HERALD, says Verstegan, is derived from the Saxon word *Herehault*, and by abbreviation *Heralt*, which in that language signifies the champion of an army; and, growing to be a name of office, it was given to him who, in the army, had the special charge to denounce war, to challenge to battle and combat, to proclaim peace, and to execute martial messages. But the business of heralds with us is as follows, viz. To marshal, order, and conduct all royal cavalcades, ceremonies at coronations, royal marriages, installations, creations of dukes, marquises, earls, viscounts, barons, baronets, and dubbing of knights; embassies, funeral processions, declarations of war, proclamations of peace, &c.: To record and blazon the arms of the nobility and gentry; and to regulate any abuses therein through the English dominions, under the authority of the Earl Marshal, to whom they are subservient. The office of Windsor, Chester, Richmond, Somerset, York, and Lancaster heralds, is to be assistants to the kings at arms, in the different branches of their office; and they are superior to each other, according to creation, in the above order.

Heralds were formerly held in much greater esteem than they are at present; and were created and christened by the king, who, pouring a gold-cup of wine on their head, gave them the herald-name: but this is now done by the earl-marshal. They could not arrive at the dignity of herald without having been seven years pursuivant; nor could they quit the office of herald, but to be made king at arms.

Richard III. was the first who formed them, in this kingdom, into a college; and afterwards great privileges were granted them by Edward VI. and Philip and Mary.

The origin of heralds is very ancient. Stentor is represented by Homer as herald of the Greeks, who had a voice louder than 50 men together. The Greeks called them *κρυκτες*, and *ειρηφυλακες*; and the Romans, *feciales*. The Romans had a college of heralds, appointed to decide whether a war were just or unjust; and to prevent its coming to open hostilities, till all means had been attempted for deciding the difference in a pacific way.

H E R A L D R Y,

A SCIENCE which teaches how to blazon, or explain in proper terms, all that belongs to coats-of-arms; and how to marshal, or dispose regularly, divers arms on a field. It also teaches whatever relates to the

marshalling of solemn cavalcades, processions, and other public ceremonies at coronations, installations, creations of peers, nuptials, christening of princes, funerals, &c.

Arms,

Definition,
origin, &c.
of Heraldry.

Arms, or coats-of-arms, are hereditary marks of honour, made up of fixed and determined colours and figures, granted by sovereign princes, as a reward for military valour, a shining virtue, or a signal public service; and which serve to denote the descent and alliance of the bearer, or to distinguish states, cities, societies, &c. civil, ecclesiastical, and military.

Thus heraldry is the science, of which *arms* are the proper object; but yet they differ much both in their origin and antiquity. Heraldry, according to Sir George Mackenzie, "as digested into an art, and subjected to rules, must be ascribed to Charlemaign and Frederick Barbarossa, for it did begin and grow with the feudal law." Sir John Ferne is of opinion, that we did borrow *arms* from the Egyptians; meaning, from their hieroglyphicks. Sir William Dugdale mentions, that arms, as marks of honour, were first used by great commanders in war, necessity requiring that their persons should be notified to their friends and followers. The learned Alexander Nisbet, in his excellent system of heraldry, says, that arms owe their rise and beginning to the light of nature, and that signs and marks of honour were made use of in the first ages of the world, and by all nations, however simple and illiterate, to distinguish the noble from the ignoble. We find in Homer, Virgil, and Ovid, that their heroes had divers figures on their shields, whereby their persons were distinctly known. Alexander the Great, desirous to honour those of his captains and soldiers who had done any glorious action, and also to excite an emulation among the rest, did grant them certain badges to be borne on their armour, pennons, and banners; ordering, at the same time, that no person or potentate, through his empire, should attempt or presume to give or tolerate the bearing of those signs upon the armour of any man, but it should be a power reserved to himself; which prerogative has been claimed ever since by all other kings and sovereign princes within their dominions.

After these and many other different opinions, all that can be said with any certainty is, that, in all ages, men have made use of figures of living creatures, or symbolical signs, to denote the bravery and courage either of their chief or nation, to render themselves the more terrible to their enemies, and even to distinguish themselves or families, as names do individuals. The famous C. Agrippa, in his treatise of the vanity of sciences, cap. 81. has collected many instances of these marks of distinction, anciently borne by kingdoms and states that were any way civilized, viz.

The Egyptians	} bore	an Ox,
The Athenians		an Owl,
The Goths		a Bear,
The Romans		an Eagle,
The Franks		a Lion,
The Saxons		a Horse.

The last is still borne in the arms of his present Britannic Majesty. As to hereditary arms of families, William Cambden, Sir Henry Spelman, and other judicious heralds, agree, that they began no sooner than towards the latter end of the 11th century. According to Father Menestrier's opinion, a French writer whose authority is of great weight in this matter, Henry l'Oiseleur (the Falconer) who was raised

Nº 151.

to the imperial throne of the West in 920, by regulating tournaments in Germany gave occasion to the establishment of family-arms, or hereditary marks of honour, which undeniably are more ancient and better observed among the Germans than in any other nation. Moreover, this last author asserts, that with tournaments first came up coats-of-arms; which were a sort of livery, made up of several lists, fillets, or narrow pieces of stuff of divers colours, from whence came the fess, the bend, the pale, &c. which were the original charges of family-arms; for they who never had been at tournaments, had not such marks of distinction. They who enlisted themselves in the Croisades, took up also several new figures hitherto unknown in armorial ensigns; such as alerions, bezants, escalop-shells, martlets, &c. but more particularly crosses, of different colours for distinction's sake. From this it may be concluded, that heraldry, like most human inventions, was insensibly introduced and established; and that, after having been rude and unsettled for many ages, it was at last methodised, perfected, and fixed, by the Croisades and tournaments.

These marks of honour are called *arms*, from their being principally and first worn by military men at war and tournaments, who had them engraved, embossed, or depicted on shields, targets, banners, or other martial instruments. They are also called *coats-of-arms*, from the custom of the ancients embroidering them on the coats they wore over their arms, as heralds do to this day.

Arms are distinguished by different names, to denote the causes of their bearing; such as,

A R M S	
Of Dominion,	Of Patronage,
Of Pretension,	Of Family,
Of Concession,	Of Alliance,
Of Community,	Of Succession.

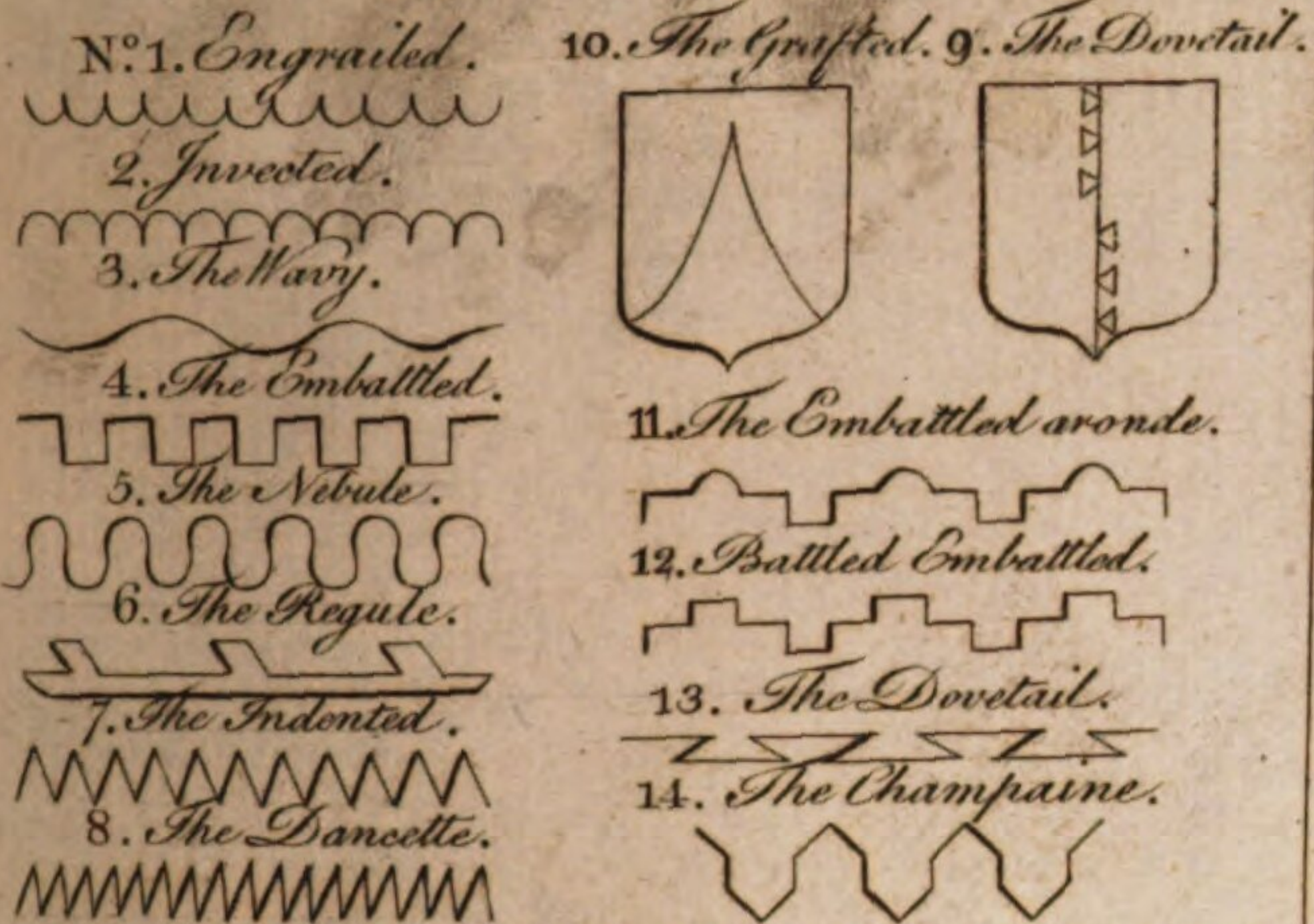
Arms of *dominion* or sovereignty are those which emperors, kings, and sovereign states, do constantly bear; being, as it were, annexed to the territories, kingdoms, and provinces, they possess. Thus the three lions are the arms of England, the fleurs-de-lis those of France, &c.

Arms of *pretension* are those of such kingdoms, provinces, or territories, to which a prince or lord has some claim, and which he adds to his own, although the said kingdoms or territories be possessed by a foreign prince or other lord. Thus the kings of England have quartered the arms of France with their own, ever since Edward III. laid claim to the kingdom of France, which happened in the year 1330, on account of his being son to Isabella, sister to Charles the Handsome, who died without issue.

Arms of *concession* or augmentation of honour, are either entire arms, or else one or more figures, given by princes as a reward for some extraordinary service. We read in history, that Robert Bruce, king of Scotland, allowed the earl of Wintoun's ancestor to bear, in his coat-armour, a crown supported by a sword, to show that he, and the clan Seaton, of which he was the head, supported his tottering crown. The late Queen Anne granted to Sir Cloudesty Shovel, rear-admiral of Great Britain, a chevron between two fleurs-de-lis in chief, and a crescent in base, to denote

Fig. 1. (A).

LINES DIFFERENCES, &c.



1. Label. 2. Crescent. 3. Mullet. 4. Martlet. 5. Annulet.



Quartered per fess. Quartered per fess. Achievement. Gyron.



Canton.

Fret.

Fretty.

Pile.



Orle.

Inescutcheon.

Trepure.

Manches.



Alaques.

Voiders.

Lozenge.

Twil.



Masole.

Rustre.

Gyronny.



Fig. 1. (B).

ESCUTCHEONS.

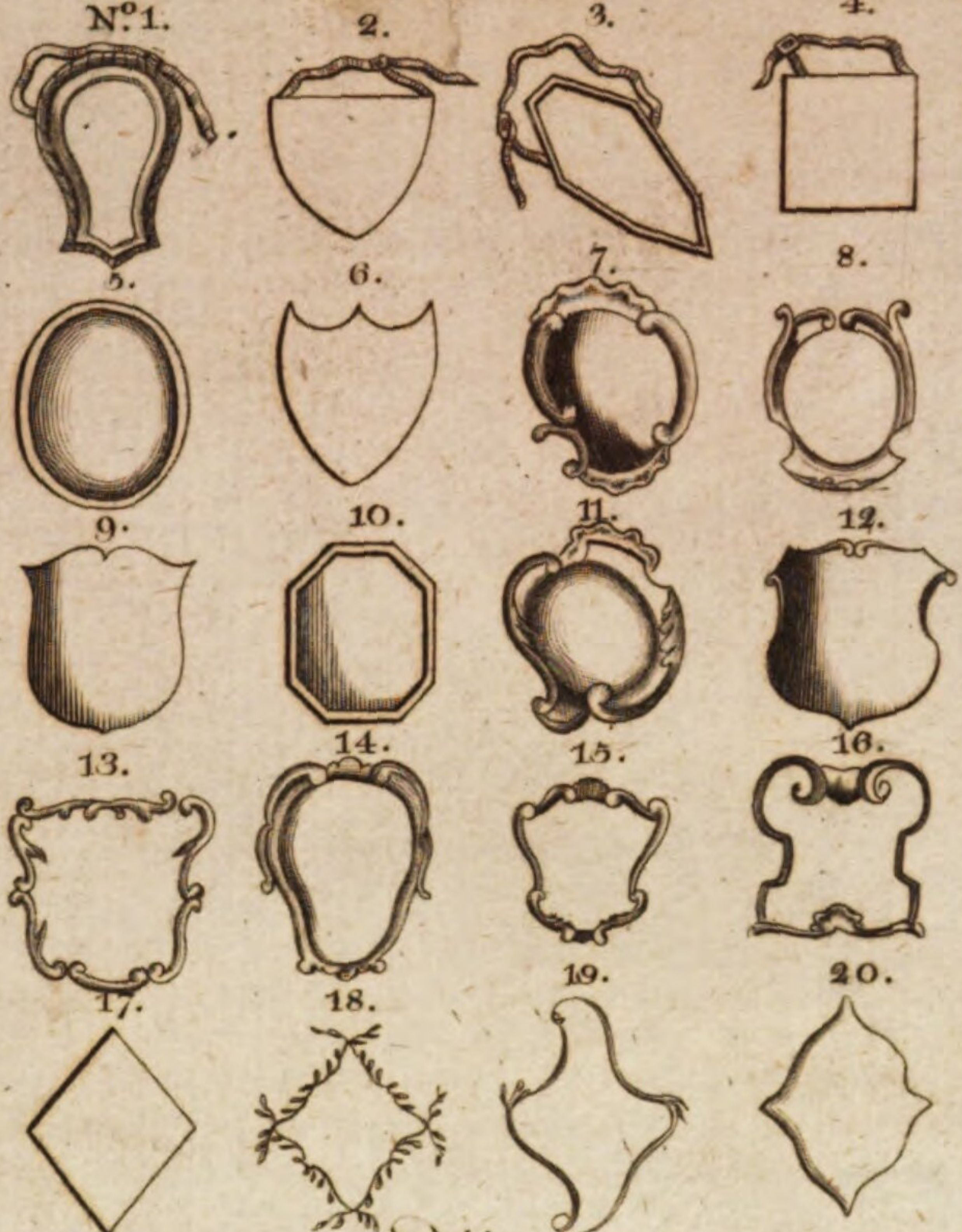
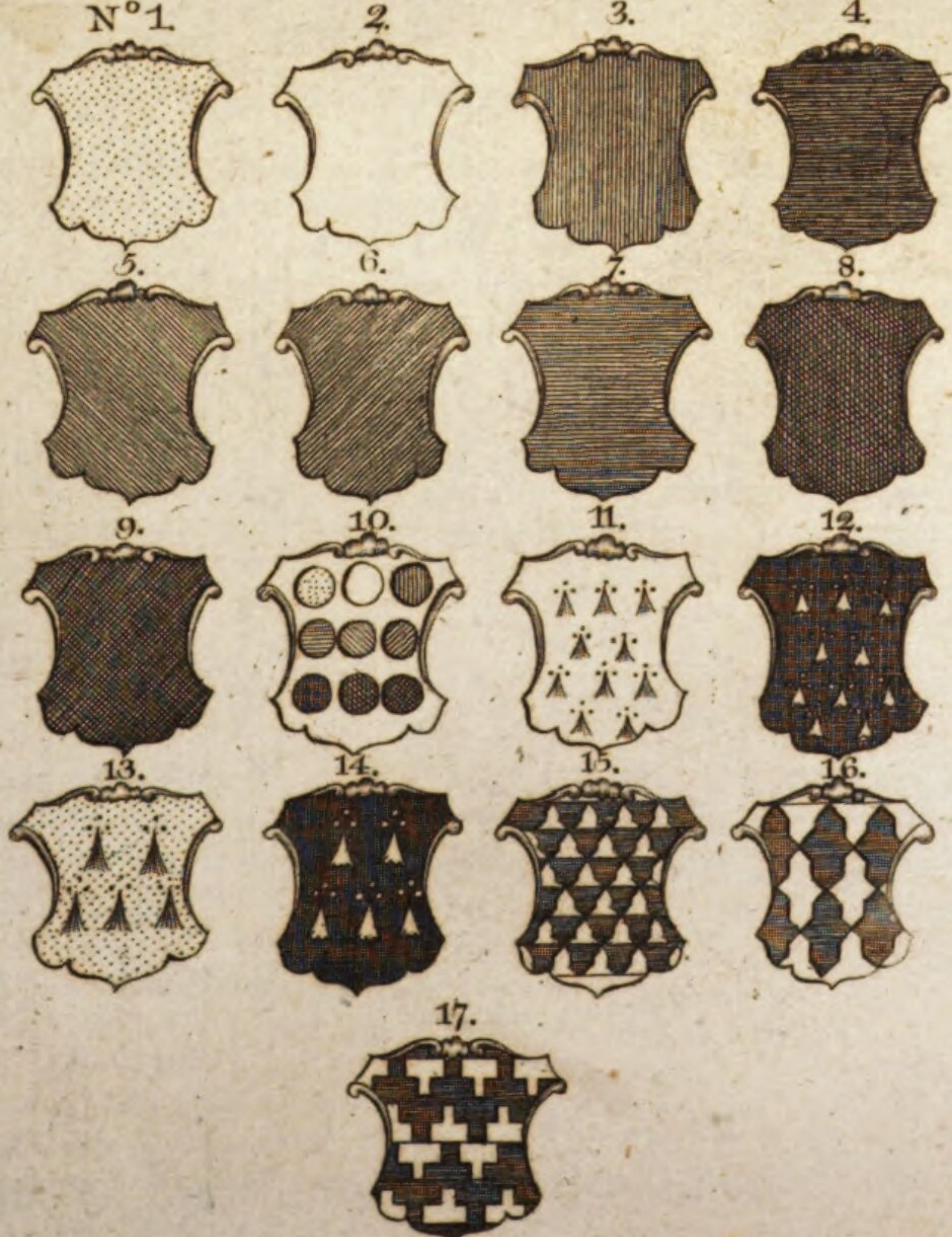


Fig. 2.

TINCTURES.



A. Bell Pin. Wat. Sculptor fecit.

Of the Shield, &c. three great victories he had gained; two over the French, and one over the Turks.

Arms of *community*, are those of bishoprics, cities, universities, academies, societies, companies, and other bodies corporate.

Arms of *patronage*, are such as governors of provinces, lords of manors, patrons of benefices, &c. add to their family-arms, as a token of their superiority, rights, and jurisdiction. These arms have introduced into heraldry, castles, gates, wheels, ploughs, rakes, harrows, &c.

Arms of *family*, or *paternal arms*, are those that belong to one particular family, that distinguish it from others, and which no person is suffered to assume without committing a crime, which sovereigns have a right to restrain and punish.

Arms of *alliance*, are those which families, or private persons, take up and join to their own, to denote the alliances they have contracted by marriage. This sort of arms is either impaled, or borne in an *escutcheon of pretence*, by those who have married heiresses.

Arms of *succession*, are such as are taken up by them who inherit certain estates, manors, &c. either by will, entail, or donation, and which they either impale or quarter with their own arms; which multiplies the titles of some families out of necessity, and not through ostentation, as many imagine.

These are the eight classes under which the divers sorts of arms are generally ranged; but there is a sort which blazoners call *assumptive arms*, being such as are taken up by the caprice or fancy of upstarts, though of ever so mean extraction, who, being advanced to a degree of fortune, assume them without a legal title. This, indeed, is a great abuse of heraldry; and common only in Britain, for on the continent no such practice takes place.

We now proceed to consider the essential and integral parts of arms, which are these:

The ESCUTCHEON, The CHARGES,
The TINCTURES, The ORNAMENTS.

CHAP. I.

Of the SHIELD or ESCUTCHEON.

THE *Shield* or *Escutcheon* is the field or ground whereon are represented the figures that make up a coat of arms: for these marks of distinction were put on bucklers or shields before they were placed on banners, standards, flags, and coat-armour; and wherever they may be fixed, they are still on a plane or superficies whose form resembles a shield.

Shields, in heraldry called *escutcheons* or *scutcheons*, from the Latin word *scutum*, have been, and still are, of different forms, according to different times and nations. Amongst ancient shields, some were almost like a horse-shoe, such as is represented by n° 1. in the figure of Escutcheons; others triangular, somewhat rounded at the bottom, as n° 2. The people who inhabited Mesopotamia, now called *Diarbeck*, made use of this sort of shield, which it is thought they had of the Trojans. Sometimes the shield was heptagonal, that is, had seven sides, as n° 3. The first of this shape is said to have been used by the famous triumvir M. Antony. That of knights-banneret was square, like a banner, as n° 4. As to modern escutcheons, those of

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the Italians, particularly of ecclesiastics, are generally oval, as n° 5. The English, French, Germans, and other nations, have their escutcheons formed different ways, according to the carver's or painter's fancy: see the various examples contained from n° 6—16 of the figure. But the escutcheon of maids, widows, and of such as are born ladies, and are married to private gentlemen, is of the form in a lozenge: See n° 17—20. Sir George Mackenzie mentions one Muriel, countess of Strathern, who carried her arms in a lozenge, anno 1284, which shows how long we have been versant in heraldry.

Armourists distinguish several parts or points in escutcheons, in order to determine exactly the position of the bearings they are charged with; they are here denoted by the first nine letters of the alphabet, ranged in the following manner:

A—the dexter chief.
B—the precise middle chief.
C—the sinister chief.
D—the honour point.
E—the fess point.
F—the nombril point.
G—the dexter base.
H—the precise middle base.
I—the sinister base.



The knowledge of these points is of great importance, and ought to be well observed, for they are frequently occupied with several things of different kinds. It is necessary to observe, that the dexter side of the escutcheon is opposite to the left hand, and the sinister side to the right hand of the person that looks on it.

CHAP. II.

Of TINCTURES, FURS, LINES, and DIFFERENCES.

SECT. I. Of Tinctures.

By *tinctures* is meant, that variable hue of arms which is common both to shields and their bearings. According to the French heralds, there are but seven tinctures in armory; of which two are metals, the other five are colours.

The Metals are,

Gold, } termed { Or.
Silver, } { Argent.

The Colours are

Blue, } termed { Azure.
Red, } { Gules.
Green, } { Vert.
Purple, } { Purpure.
Black, } { Sable.

When natural bodies, such as animals, plants, celestial bodies, &c. are introduced into coats of arms, they frequently retain their natural colours, which is expressed in this science by the word *proper*.

Besides the five colours above mentioned, the English writers on heraldry admit two others, viz.

Orange, } termed { Tenny.
Blood-colour, } { Sanguine.

But these two are rarely to be found in British bearings.

These tinctures are represented in engravings and drawings

The
Tinctures.

drawings (the invention of the ingenious Silvester Petra Sancta, an Italian author of the last century) by dots and lines, as in fig. ii. n^o 1—9.

Or is expressed by dots.

Argent needs no mark, and is therefore plain.

Azure, by horizontal lines.

Gules, by perpendicular lines.

Vert, by diagonal lines from the dexter chief to the sinister base points.

Purple, by diagonal lines from the sinister chief to the dexter base points.

Sable, by perpendicular and horizontal lines crossing each other.

Tenny, by diagonal lines from the sinister chief to the dexter base points, traversed by horizontal lines.

Sanguine, by lines crossing each other diagonally from dexter to sinister, and from sinister to dexter.

Sir George M Kenzie observes, that "some fantastic heralds have blazoned not only by the ordinary colours and metals, but by flowers, days of the week, parts of a man's body, &c. and have been condemned for it by the heralds of all nations. Yet the English have so far owned this fancy," (the most judicious of them, as Mr Cartwright and others, reprobate it as absurd), "that they give it for a rule, that the coats of sovereigns should be blazoned by the planets, those of noblemen by precious stones; and have suited them in the manner here set down:

Or	Topaz	Sol.
Argent	Pearl	Luna.
Sable	Diamond	Saturn.
Gules	Ruby	Mars.
Azure	Sapphire	Jupiter.
Vert	Emerald	Venus.
Purple	Amethyst	Mercury.
Tenny	Jacinth	Dragon's-head.
Sanguine	Sardonix	Dragon's-tail.

"But I crave leave to say, that these are but mere fancies; and are likewise unfit for the art, for these reasons: 1st, The French (from whom the English derive their heraldry, not only in principles, but in words of the French language) do not only not use these different ways of blazoning, but treat them *en ridicule*. 2dly, The Italian, Spanish, and Latin heralds use no such different forms, but blazon by the ordinary metals and colours. 3dly, Art should imitate nature; and as it would be an unnatural thing in common discourse not to call red *red* because a prince wears it, so it is unnatural to use these terms in heraldry. And it may fall out to be very ridiculous in some arms: for instance, if a prince had for his arms an *as couchant* under his burden *gules*, how ridiculous would it be to say he had an *as couchant Mars*?—A hundred other examples might be given; but it is enough to say, that this is to confound colours with charges, and the things that are borne with colours. 4thly, It makes the art unpleasant, and deters gentlemen from studying it, and strangers from understanding what our heraldry is; nor could the arms of our princes and nobility be translated in this disguise into Latin or any other language. But that which convinces most that this is an error is, because it makes that great rule unnecessary, whereby colour cannot be

put upon colour, nor metal upon metal; but this cannot hold but where metals and colours are expressed." The furs.

The English heralds give different names to the roundlet (n^o 10), according to its colour. Thus, if it is

Or,	it is called a	<i>Bezant.</i>
Argent,		<i>Plate.</i>
Azure,		<i>Hurt.</i>
Gules,		<i>Torteau.</i>
Vert,		<i>Pomey.</i>
Purple,		<i>Golpe.</i>
Sable,		<i>Pellet.</i>
Tenny,		<i>Orange.</i>
Sanguine,		<i>Guze.</i>

The French, and all other nations, do not admit such a multiplicity of names to this figure; but call them *Bezants*, after an ancient coin struck at Constantinople, once *Byzantium*, if they are Or and Torteaux; if of any other tincture, expressing the same.

SECT. II. Of Furs.

Furs represent the hairy skin of certain beasts, prepared for the doublings or linings of robes and garments of state: and as shields were anciently covered with furred skins, they are therefore used in heraldry not only for the linings of the mantles, and other ornaments of the shields, but also in the coats of arms themselves.

There are three different kinds in general use, viz.

1. *Ermine*; which is a field argent, powdered with black spots, their tails terminating in three hairs. (Fig. ii. n^o 11.)

2. *Counter-ermine*, where the field is sable, and the powdering white. (n^o 12.)

3. *Vair* (n^o 15.), which is expressed by blue and white skins, cut into the forms of little bells, ranged in rows opposite to each other, the base of the white ones being always next to that of the blue ones. *Vair* is usually of six rows; if there be more or fewer, the number ought to be expressed; and if the colours are different from those above mentioned, they must likewise be expressed.

The English multiply the furs, as well as the names of the tinctures, though no other nation has adopted such varieties. Thus they give us,

1. *White*, which is the natural colour of the ermine; but it is used on no other occasion but in the descriptions of mantles.

2. *Ermines*, which is the same with contra-ermine.

3. *Erminois*; the field is Or, the powdering Sable, (n^o 13.) For the use of this fur Guillim cites Bara, p. 14. but no such fur is to be found in Bara.

4. *Pean*; the field is Sable, the powdering Or, (n^o 14.) The French use no such term: but they call all furs or doublings *des pannes*, or *pennes*; which term has possibly given rise to this mistake, and many others, in those who do not understand the French language.

5. *Erminites*; the same as Ermine, with the addition of a red hair on each side of the black. Sir Geo. M'Kenzie calls these distinctions "but fancies, for *erminites* signifies properly *little ermines*."

6. *Counter-vair*; when the bells of the same tincture are

Of Lines. are placed base against base, and point against point, (n° 16.)

7. *Potent-counter-potent*, anciently called *Vairy-cuppy*, as when the field is filled with crutches or potents counter-placed, (n° 17.)

It may not be improper to observe, that the use of the tinctures took its rise from the several colours used by warriors whilst they were in the army, which S. de Petra Sancta proves by many citations. And because it was the custom to embroider gold and silver on silk, or silk on cloth of gold and silver, the heralds did therefore appoint, that in imitation of the clothes so embroidered, colour should never be used upon colour, nor metal upon metal.

SECT. III. Of the Lines used in the parting of Fields.

ESCUTCHEONS are either of one tincture, or more than one. Those that are of one only, that is, when some metal, colour, or fur, is spread all over the surface or field, such a tincture is said to be predominant: but in such as have on them more than one, as most have, the field is divided by lines; which, according to their divers forms, receive various names.

Lines may be either straight or crooked. Straight lines are carried evenly through the escutcheon: and are of four different kinds; viz. a perpendicular line |; a horizontal, —; a diagonal dexter, \; a diagonal sinister, /.

Crooked lines are those which are carried unevenly through the escutcheon with rising and falling. French armorists reckon 11 different sorts of them; Guillim admits of seven only; but there are 14 distinct kinds, the figures and names of which are as in fig. i. (A), n° 1—14. viz.

1. The engrailed. 2. The invested. 3. The wavy. 4. The embattled, or crenelle. 5. The nebule. 6. The raguly. 7. The indented. 8. The dancette. 9. The dove-tail. 10. The grafted. 11. The embattled a-ronde. 12. The battled embattled. 13. The patee or dove-tail. 14. Champaine.

The principal reason why lines are thus used in heraldry, is to difference bearings which would be otherwise the same; for an escutcheon charged with a chief engrailed, differs from one charged with a chief wavy, as much as if the one bore a cross and the other a saltier.

As the forementioned lines serve to divide the field, it must be observed, that if the division consists of two equal parts made by the perpendicular line, it is called *parted per pale*; by the horizontal line, *parted per fess*; by the diagonal dexter, *parted per bend*; by the diagonal sinister, *parted per bend sinister*; examples of which will be given in the sequel of this treatise.

If a field is divided into four equal parts by any of these lines, it is said to be *quartered*; which may be done two ways, viz.

Quartered or parted *per cross*; which is made by a perpendicular and horizontal line, which, crossing each other at the centre of the field, divide it into four equal

parts called *quarters*. See Plate CCXXVII. under fig. i. (A).

Quartered or parted *per saltier*; which is made by two diagonal lines, dexter and sinister, that cross one another in the centre of the field, and likewise divide it into four equal parts. *Ibid.*

The escutcheon is sometimes divided into a greater number of parts, in order to place in it the arms of the several families to which one is allied; and in this case it is called a *genealogical atchievement*. These divisions may consist of 6, 8, 12, and 16, quarters [as under fig. i. (A)], and even sometimes of 20, 32, 64, and upwards; there being examples of such divisions frequently exhibited at pompous funerals. An extraordinary instance of this kind was lately exhibited at the pompous funeral of the late worthy viscountess Townshend, whose corpse was brought from Dublin castle in Ireland to Rainham-hall in Norfolk, one of the principal tenants on horse-back carrying before the hearse a genealogical banner, containing the quarterings of his lordship's and her ladyship's family, to the amount of upwards of 160 coats. Sir George Booth, rector of the valuable living of Ashton under Line, bears six distinct coats of arms in his shield; viz. those for Booth, Barton, Venables, Mountfort, Ashton, Egerton; and has besides a right to 37 other coats: but Sir William Dugdale very justly objects to so many arms being clustered together in one shield or banner, on account of the difficulty of discerning and knowing afunder one coat of arms from another.

SECT. IV. Of the Differences of Coats of Arms.

ARMORISTS have invented divers differences or characteristic marks, whereby bearers of the same coat of arms are distinguished each from others, and their nearness to the principal bearer demonstrated. According to J. Guillim, these differences are to be considered either as ancient or modern.

ART. I. Of ANCIENT DIFFERENCES.

THOSE he calls *ancient differences* consist in *bordures* (A); which is a bearing that goes all round, and parallel to the boundary of the escutcheon, in form of a hem, and always contains a fifth part of the field in breadth. Bordures were used in ancient times for the distinguishing not only of one nation or tribe from another, but also to note a diversity between particular persons descended of one family and from the same parents. This distinction, however, was not expressly signified by invariable marks; nor were bordures always appropriated to denote the different degrees of consanguinity: for, as Sir Henry Spelman observes in his *Aspilegia*, p. 140, ancient heralds, being fond of conspicuous differences, often inverted the paternal tincture, or sometimes inserted another charge in the escutcheon, such as bends, crosslets, cantons, or the like; which irregularity has, I suppose, induced modern armorists to invent and make use of others."

There are bordures of different forms and tinctures, as in the examples, fig. iii.

3 I 2

N° 1.

(A) Bordures are still introduced into English coats of arms, but for particular reasons, which heralds can best explain. They are by the French frequently taken for a principal figure, and numbered among the rest of the ordinaries.

Ancient
Differences.Plate
CCXXVIII

No 1. is "Sable, a Bordure Argent;" borne by the right hon. Sackville Tufton, earl of Thanet.—When a bordure is plain, you are not to mention it, as it is always understood so in heraldry, though it be not expressed; but if it has any other form, you are to signify it.

2. "Gules, a Bordure engrailed Argent;" borne by the right hon. Charles Gray, lord Gray.—This is called *engrailed*, from the French word *engrêlé*, which signifies a thing the hail has fallen upon and broken off the edges, leaving it with little semicircles struck out of it.

3. "Gules, a Bordure engrailed Or;" borne by the right hon. George Talbot, earl of Shrewsbury. You must observe, that, in a bordure or ordinary formed of these lines, the points are represented on all sides towards the field, and the semicircles turned towards the bordure or ordinary.

4. "Argent, a Bordure inverted Azure."—This is quite contrary to the last; for as the other turns its points from the bordure into the field, so contrariwise this does, by the inversion of the points from the field into the bordure. Such a charge or any other formed of these lines is seldom to be met with in English coats of arms.

5. "Gules, a Bordure indented Argent."—The word *indented* requires very little explanation, the signification being obvious to all persons, from its figure, which is composed of tracks resembling teeth, called in Latin *dentes*.

6. "Azure, a Bordure Ermine."

7. "Vert, a Bordure Vair."

8. "Ermine, a Bordure compony, or gobony, Or and Sable."—This is so termed from its being composed of small and equal pieces. J. Guillim calls this bordure *gobonated*, which implies the same meaning; but the word being obsolete, is not used by modern heralds.

9. "Quarterly, Azure and Gules, a Bordure compony Argent and Azure;" borne by his grace Henry Somerset, duke of Beaufort, &c.

10. "Azure, a Bordure counter-compony Argent and Gules."—Observe, that the counter-compony does always consist of two tracks and no more.

11. "Or, a Bordure chequy Argent and Sable."—This has a great resemblance with the last bordure, having only one track more; therefore you must take care, before you blazon, to number them, or else you may easily err in taking the one for the other.

12. "Gules, a Bordure Argent charged with eight Trefoils slipped proper, that is, Vert."—All nations use few terms in blazoning bordures; but English armorists, in order possibly to raise the dignity of this science, have perplexed it, and rendered it unintelligible to all foreigners, by introducing into it several mystical names, among which may be reckoned the following ones, *viz.* They call a bordure, if charged with eight plants, fruits, flowers, or leaves, *verdoy* of such vegetables; or *enaluron* of such birds; *enurny* of beasts; *per-flew* of furs; and *entoyre* of inanimate things of what kind soever.

13. "Gules on a Bordure Azure, eight Stars Or."

14. "Argent, a bordure compony of the last and Gules, the first charged with Roses of the second,

barbed and seeded proper."—This bordure is borne by his grace Charles Lennox, duke of Richmond, &c.

Ancient
Differences.

15. "Ermine, within a Bordure engrailed Gules;" the coat of arms of the right hon. Henry-Benedict Barnewall, viscount Kingsland, &c. of Ireland.—This ancient and noble family is of French extraction, and allied to the dukes of Little-Bretagne, where the name continues still in great repute.

16. "Argent, a Bordure Sable charged with eight Bescants;" borne by the right hon. ——— Cole, lord Ranelagh, of Ireland.

17. "Party per pale Argent and Gules, a Bordure charged with eight Escalops counterchanged;" the coat of arms of the right hon. William Maule, earl of Panmure, &c. of Ireland. This very ancient family is originally French, and derives its surname from the town and lordship of Maule in Normandy, where the same arms are still to be seen in the parish-church.

18. "Azure, a Bordure quarterly, the first and fourth Ermine, the second and third counter-compony Argent and Azure."

19. "Purpure, a Bordure compony Or and Gules, each of the last charged with a Bescant."

20. "Quarterly Or and Gules, within a Bordure Vert, charged with eight Escalops Or."

We shall conclude this head with observing, that a bordure is never of metal upon metal, and seldom of colour upon colour, but rather of the tincture which the principal bearing or charge is of. Thus Sir ——— Dalziel of Glenae, whose predecessor was a younger brother of the noble family of Carnwath, has, within a Bordure Argent, the paternal coat of the ancient name of Dalziel, *viz.* "Sable, a hanged man with his arms extended, Argent;" formerly they carried him hanging on a gallows. This bearing, though so very singular for a coat of arms, was given as a reward to one of the ancestors of the late Robert Dalziel, earl of Carnwath, to perpetuate the memory of a brave and hazardous exploit performed in taking down from a gallows the body of a favourite and near relation of king Kenneth II. hung up by the Picts; which story is thus related by Alexander Nisbet: "The king being exceedingly grieved that the body of his minion and kinsman should be so disgracefully treated, he proffered a great reward to any of his subjects who would adventure to rescue his corpse from the disgrace his cruel enemies had unjustly put upon it: but when none would undertake this hazardous enterprise, at last a valorous gentleman came and said to the king, *Dalziel*, which signifies, "I dare;" and he did actually perform that noble exploit to the king's satisfaction and his own immortal honour, and in memory of it got the aforesaid remarkable bearing; and afterwards his posterity took the word *Dalziel* for their surname, and the interpretation of it, *I dare*, continues even to this day to be the motto of that noble family." We can have no better proof of the truth of this tradition than this, that the heads of this ancient family have for many ages carefully retained this bearing without any alteration or addition.

ART. 2. OF MODERN DIFFERENCES.

THE modern differences which the English have adopted not only for the distinguishing of sons issued

out

HERALDRY

Plate CCXXVIII.

Fig. 3.
BORDURES

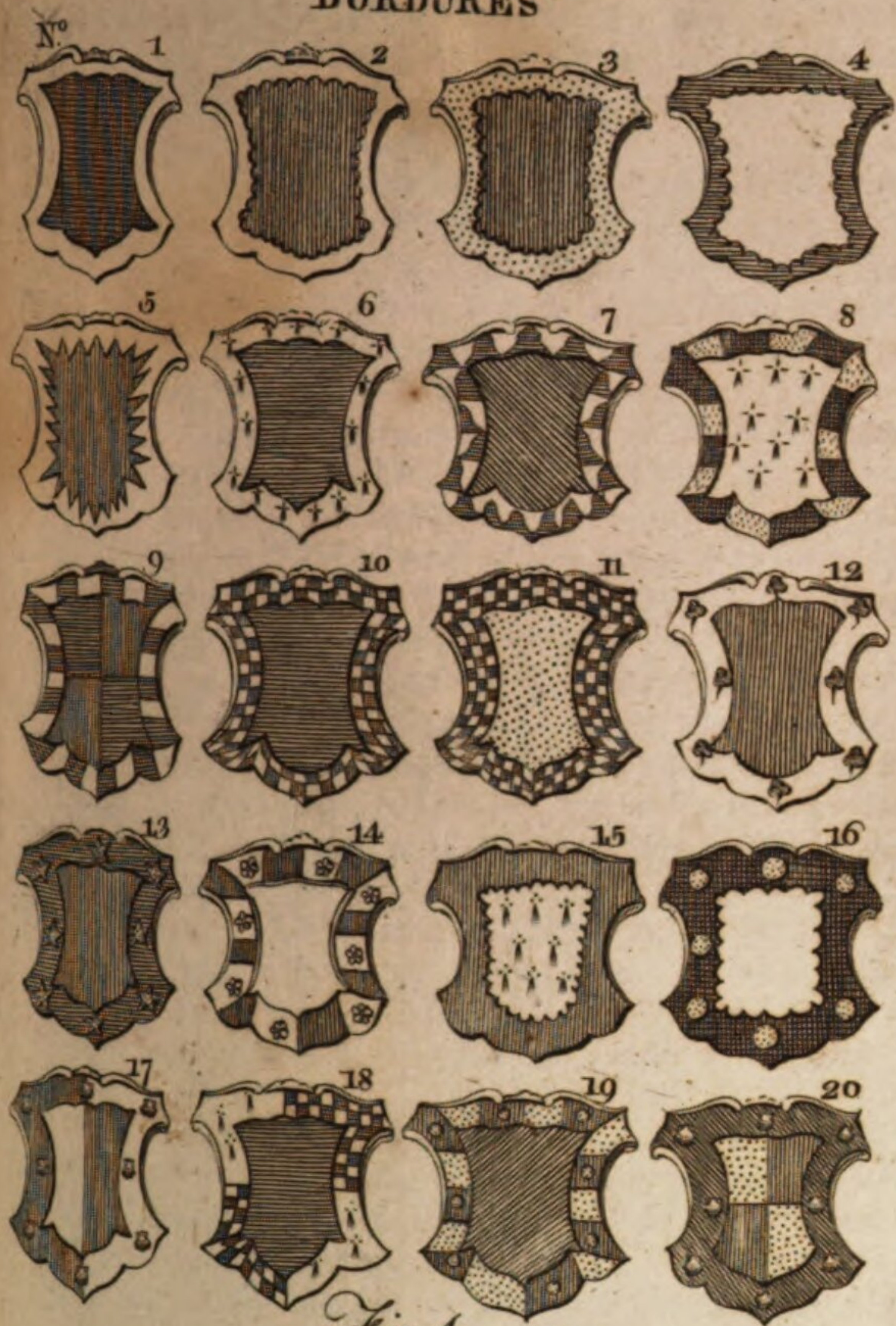


Fig. 4.

TABLE of HOUSES



Fig. 5.
CHIEFS &c.

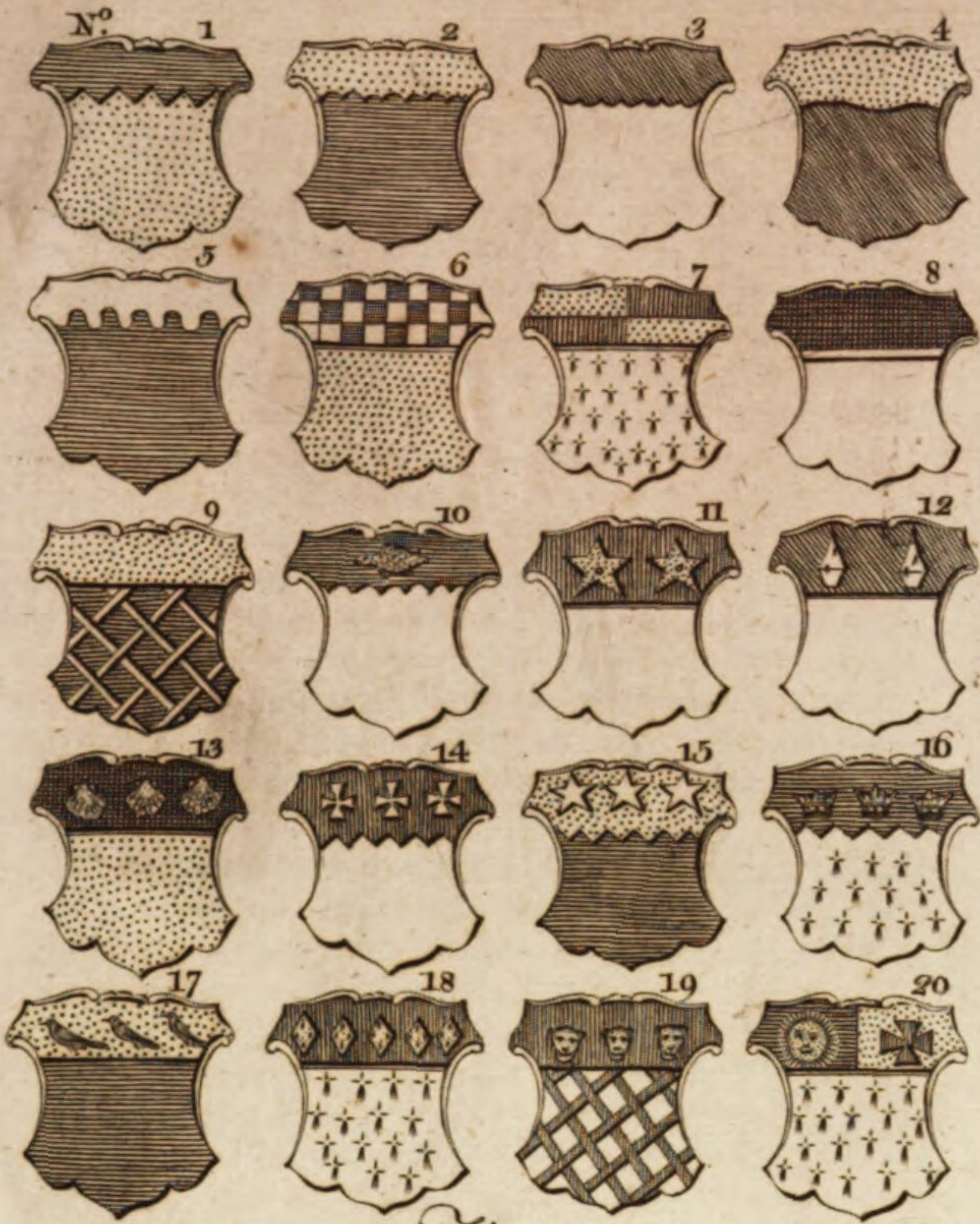
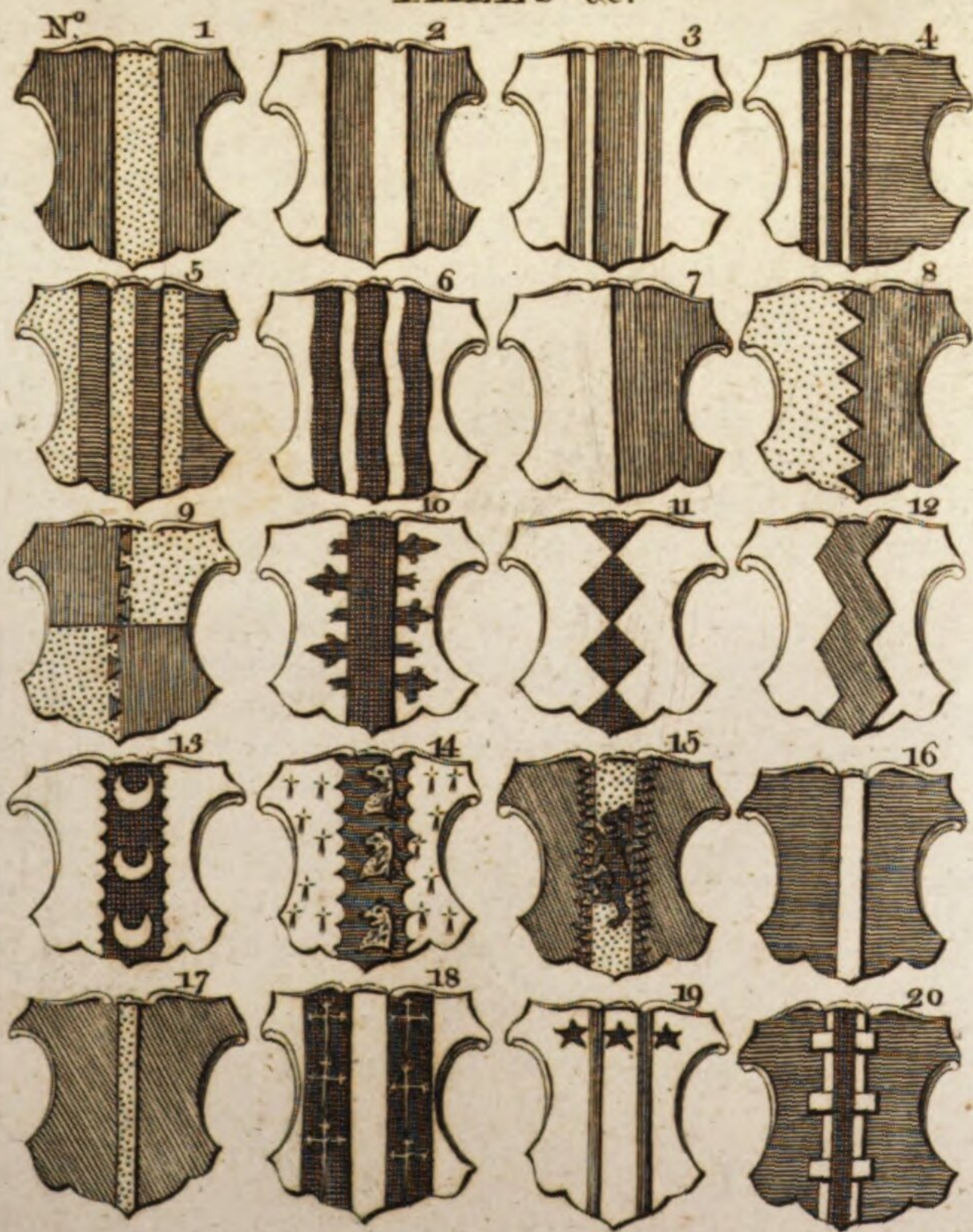
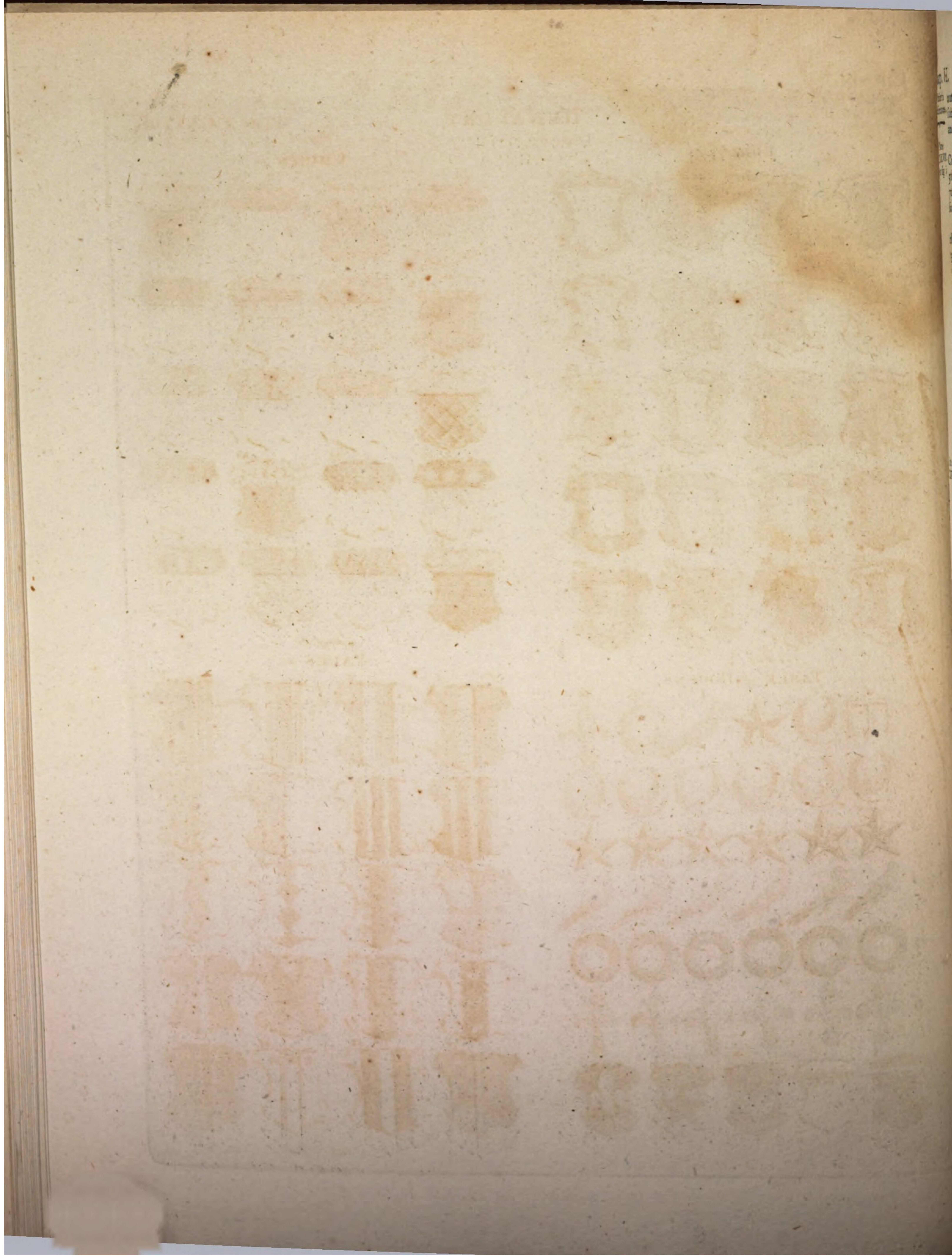


Fig. 6.
PALES &c.



A. Bell Pin. Wal. Sculptor fecit.



Modern Differences. out of one family, but also to denote the difference and subordinate degrees in each house from the original ancestors, are nine, viz.

Plate CCXXVII. under fig i (A) For the heir or first son, the Label. 2d son, the Crescent. 3d son, the Mullet. 4th son, the Martlet. 5th son, the Annulet. 6th son, the Flower-de-luce. 7th son, the Rose. 8th son, the Cross moline. 9th son, the Double Quater-foil.

By these differences, the six sons of Thomas Beauchamp, the 15th earl of Warwick, who died in the 34th year of king Edward III. are distinguished in an old window of the church of St Mary at Warwick; so that although they are called *modern differences*, their usage with the English is ancient.

It must be observed, that, of all the forementioned marks of distinction, none but the label is affixed on the coats of arms belonging to any of the royal family; which the introducers of this peculiarity have, however, thought proper to difference by additional pendants and distinct charges on them.

Plate CCXXVIII As to the distinction to be made in the arms of the offspring belonging to each of the above mentioned brothers, it is expressed by figures on the top and margin of the table contained in fig. iv. For instance, The heir or first son of the second house, beareth a crescent charged with a label during his father's life only. The second son of the second house, a crescent charged with another crescent. The third son of the second house, a crescent charged with a mullet. The fourth son of the second house, a crescent charged with a martlet. The fifth son of the second house, a crescent charged with an annulet. The sixth son of the second house, a crescent charged with a flower-de-luce; and so on of the other sons, taking care to have them of a different tincture.

In what part of the escutcheon these differences should be borne is not certain; for Guillim, Morgan, and others, give us many different examples of their position. The honour-point would be the properest place, if the arms would admit of it; but that is not always the case, as that part may be charged with some figure in the paternal coat, which cannot with propriety receive the difference. There are instances where these are borne as perfect coats of arms, as the examples subjoined to the Table of Houses sufficiently show; which are to be blazoned thus:

The first is "Azure, a Label Argent."—When such a label is borne as a difference, the pendants, according to G. Leigh, signify that he is but the third person; the dexter pendant referring to his father, the sinister to his mother, and the middle one to himself.

The second is "Argent, a Label of five points Azure;" borne by the name of Hentington. If a label has more or less than three pendants or points, they are to be expressed as in the foregoing example.

The third is "Azure, a Crescent Argent," borne by the name of Lucy.—The reason G. Leigh assigns for the second son's having a crescent for a difference is to show that he should increase the family by adding to it riches and reputation.

The fourth is "Argent, a Mullet Sable, on a Chief Azure, a Fleur-de-lis Or;" borne by the name of Rogers, in Gloucestershire.—A mullet or spur was appointed for the third son's difference, as the last-

mentioned author says, to show that he should follow chivalry.

The fifth is "Azure, a Fleur-de-lis Argent;" borne by the right hon. Henry Digby, baron Digby of Geashil, in King's-county, Ireland.

These few examples, among many more that might be given, demonstrate the impropriety of adopting these *modern differences*, as they are called, for marks of cadency to distinguish the different branches of a family: for it is impossible to distinguish the uncle or grand-uncle from the nephew or grand-nephew, if each of them are second, third, or fourth sons; and in the course of succession these differences would multiply to such a number, that it would be impossible to delineate them distinctly in most cases. But as they are given by most of the English writers on heraldry, though no foreign nation uses them, it was thought proper to insert them here.

Sisters, except of the blood-royal, have no other mark of difference in their coats of arms, but the form of the escutcheon (as observed before); therefore they are permitted to bear the arms of their father, even as the eldest son does after his father's decease. The reason of which is by Guillim said to be, that when they are married, they lose their surname, and receive that of their husbands.

Next to these diminutions, G. Leigh, J. Guillim, and after them Dr Harris in his *Lexicon Technicum*, set forth at large divers figures, which they pretend were formerly added to the coats of such as were to be punished and branded for cowardice, fornication, slander, adultery, treason, or murder, for which they give them the name of *abatements of honour*; but as they produce but one instance of such whimsical bearings, we have not inserted them here. Besides, arms being marks of honour, they cannot admit of any note of infamy; nor would any body now-a-days bear them if they were so branded. It is true, a man may be degraded for divers crimes, particularly high treason; but in such cases the escutcheon is reversed, trod upon, and torn in pieces, to denote a total extinction and suppression of the honour and dignity of the person to whom it belonged.

C H A P. III.

Of the CHARGES.

ARMORISTS call a charge whatsoever is contained in the field, whether it occupy the whole or only a part thereof. All charges are distinguished by the names of *honourable ordinaries*, *sub-ordinaries*, and *common charges*.

Honourable ordinaries, the principal charges in heraldry, are made of lines only, which, according to their disposition and form, receive different names.

Sub-ordinaries are ancient heraldic figures, frequently used in coats of arms, and which are distinguished by terms appropriated to each of them.

Common charges are composed of natural, artificial, and even chimerical things; such as planets, creatures, vegetables, instruments, &c.

SECT. I. Of Honourable Ordinaries.

THE most judicious armorists admit only of nine honourable ordinaries, viz.

The

Modern Differences.

The Chief
The Pale
The Bend
The Bend sinister
The Fefs

The Bar
The Cheveron
The Crofs
and
The Saltier.

Of these, but six have diminutives, which are called as follows: That of the chief is a *fillet*; the pale has a *pallet* and *endorse*; the bend, a *bendlet*, *cost*, and *ribband*; the bend sinister has the *scarp* and *bâton*; the bar, the *closet* and *barulet*; the cheveron, a *chevronel* and *couple-closet*. All which will be treated of in order.

ART. I. Of the CHIEF.

THE chief is an ordinary determined by an horizontal line, which, if it is of any other form but straight, must be expressed. It is placed in the upper part of the escutcheon, and containeth in depth the third part of the field. Its diminutive is a *fillet*, the content of which is not to exceed one fourth of the chief, and standeth in the lowest part thereof. This ordinary is subject to be charged with variety of figures; and may be indented, wavy, nebule, &c. as in the examples, fig. v.

Plate
CCXXVIII

N^o 1. is "Or, a Chief indented Azure;" borne by the right hon. Edmund Butler, viscount Mountgarret, &c. of the kingdom of Ireland. This great and illustrious family of the Butlers, so renowned for the many valiant and loyal persons it has produced, is descended from the ancient counts of Brion in Normandy; but since king Henry II. conferred the office of chief butler of Ireland upon one of the family, he and his successors have assumed the name of *Butler*.

2. "Azure a Chief engrailed Or."
3. "Argent, a Chief invected Vert."
4. "Vert, a Chief undy Or."
5. "Azure, a Chief nebule Argent."
6. "Or, a Chief chequy Azure and Argent."
7. "Ermine, a Chief quarterly Or and Gules;" borne by the name of Peckham.

8. "Argent, a Chief Sable, in the lower part thereof a Fillet of the Field."

9. "Azure, fretty Argent, a Chief Or;" borne by the right hon. Hayes St Leger, viscount Doneraile, &c. of the county of Cork in Ireland. This ancient and noble family is of French extraction; and is descended from Sir Robert Sent Legère, knight, who, in 1066, accompanied William duke of Normandy in his expedition into England; and the family have a tradition, that he, with his own hand, supported the said duke when he quitted the ship to land in Suffex.

10. "Argent, on a Chief engrailed Azure, a Tortoise passant Or;" borne by the name of *Bidgood*.

11. "Argent, on a Chief Gules, two Spur-revels Or;" borne by the right hon. John St John, lord St John of Bletshoe, &c. Of this ancient family, which derive their surname from a place called *St John* in Normandy, was John de St John, Esq; who having a principal employment in the army of the Norman duke, attended him in his expedition into England.

12. "Argent, on a Chief Vert, two Spears Heads erect of the Field, the points imbrued Gules;" borne

by the right hon. George Brodrick, Viscount Middleton, &c. of the kingdom of Ireland. This family is lineally descended from George de Brodrick, who came into England in the reign of William II.

13. "Or, on a Chief Sable, three Escalops of the field," for the name of *Graham*; and borne quartered in the arms of his Grace William Graham, duke, marquis, and earl of Montrose, &c. with Argent three Roses Gules. According to the Scots writers, this great and noble family is descended from the renowned Greme or Grame, who, in the year 404, was general of king Fergus II.'s army, and, in 420, forced his way through the wall built by the Romans between the rivers Forth and Clyde to keep out the Scots from molesting them in their possessions, and the said breach has ever since been called *Grame's dike*.

14. "Argent, on a Chief indented Gules, three Crofses pattee of the Field;" borne by the right hon. John Perceval, earl of Egmont, &c. This very ancient and noble family is supposed, from circumstances little short of positive proof, to have sprung from a younger branch of the sovereign dukes of Bretagne in France, of the same name. They were transplanted into Normandy before the conquest, possessed of great estates and power, and invested with the office of chief butler. Upon the Norman invasion, two of this family came over into England with the Conqueror, from one of which the descent of the present earl of Egmont is deduced by the clearest and most indisputable proofs of historians and records.

15. "Azure, on a Chief indented Or, three Spur-revels Gules;" borne by the right hon. Charles Moore, earl of Drogheda, &c. of the kingdom of Ireland. This noble family, which is of French extraction, came into England soon after the conquest, and made their first residence in the manor of Moore-court, in the county of Kent.

16. "Ermine, on a Chief indented Azure, three ducal coronets Or;" borne by the name of *Lytton*.

17. "Azure, on a Chief Or, three Martlets Gules;" for the name of *Wray*; and borne by Sir Cecil Wray, Bart. of Lincolnshire.

18. "Ermine, on a Chief Gules; five Lozenges of the first;" borne by the name of *Dixin*.

19. "Argent, fretty Gules, on a Chief of the second, three Leopard's Faces Or;" borne by the right hon. Henry Liddel, lord Ravensworth. This noble lord is descended from the ancient lords of Liddle-castle, in the county of Durham, where they have been proprietors of great coal-mines time out of mind.

20. "Ermine, a Chief party per pale Azure and Or; on the dexter the Sun in its splendor, on the sinister a Crofs pattee Gules." The arms of the bishopric of Raphoe, in the kingdom of Ireland.

ART. II. Of the PALE.

THE Pale is an ordinary, consisting of two perpendicular lines drawn from the top to the base of the Escutcheon, and contains the third middle part of the field. Its diminutives are, the *pallet*, which is the half of the pale; and the *endorse*, which is the fourth part of a pale. This ordinary and the pallet may receive any charge, but the endorse should not be charged. The endorse, besides, is never used, according to J. Leigh,

Honour-
able Ordina-
ries.

Of the Pale. Leigh, but to accompany the pale in pairs, as cotices do the bend; but Sir John Ferne is of a different opinion.

Plate CCXXVIII main. Ex. 1. "Gules, a Pale Or;" by the name of *Grand-*

fig. vi. 2. "Party per Pale Argent and Gules, a Pale counterchanged."

3. "Argent, a Pale between two Endorfses Gules."

4. "Party per Pale, 1st, Paly of six Argent and Sable, 2d, Azure;" borne by the name of *Trenchard*.

5. "Paly of six Or and Azure."

6. "Argent, three Pallets undy Sable;" by the name of *Downes*.

7. "Party per Pale, Argent and Gules;" borne by the right hon. John Waldegrave, earl Waldegrave, &c. This noble earl is descended from John de Waldegrave, who was sheriff of London in the year 1205, in the seventh year of king John.

8. "Party per Pale indented, Or and Gules;" borne by the right hon. Thomas Bermingham, baron of Athenry, in the kingdom of Ireland. Of this ancient and noble family, which are of English extraction, and took their name from the town of Bermingham in the county of Warwick, was William de Bermingham, who was possessed of the town of that name in the reign of Henry II. which continued in that family till the reign of Henry VIII.

9. "Quarterly per Pale dove-tail, Gules and Or;" borne by the right hon. Thomas Cromley, lord Montfort, &c. This noble lord is maternally descended from Sir Walter Bromleghe of Bromleghe, in the county of Stafford, who flourished in the reign of king John. Sir Thomas Bromley, another of his lordship's ancestors, was constituted lord high chancellor of England, 21 Elizabeth; in which post he died, 29 Elizabeth.

10. "Argent, a Pale flory counterflory Sable."

11. "Argent, a Pale lozengy Sable;" borne by the name of *Savage*.

12. "Argent, a Pale indented Vert;" borne by the name of *Dixon*.

13. "Argent, on a Pale engrailed Sable, three Crescents Or;" borne by the name of *Ashby*.

14. "Ermine, on a Pale engrailed azure, three Lion's Heads coupé Or;" borne by the name of *Avery*.

15. "Vert, on a Pale radiant Or, a Lion rampant Sable;" borne by the right hon. James O'Hara, lord Tyrawley, &c. in the kingdom of Ireland. This noble lord is descended from Milesius king of Spain, by his eldest son Hiberius, who, with his brother Heremon, established a colony in Ireland. Sir Charles O'Hara, father to the present lord, was created baron of Tyrawley by queen Anne, Jan. 10. 1706, being at that time a lieutenant-general, and colonel of the royal regiment of fusileers: and the next year was made general in Spain, where this son, lord James, was wounded at the battle of Almanza.

16. "Azure, a Pallet Argent."

17. "Vert, an Endorse Or."

18. "Argent, on two Pallets Sable, six Cross-crosets fitchy Or;" borne by the name of *Betunes*, of the county of Salop.

19. "Argent, two Endorfses Gules, in Chief three Mulletts Sable;" borne by the name of *Vautort*.

20. "Azure, on a Pale walled with three pieces on each side Or, an Endorse Sable;" borne by the name of *Sublet de Noyers*, a family of distinction in France.

ART. III. Of the BEND and BEND-SINISTER.

THE Bend is an ordinary formed by two diagonal lines, drawn from the dexter-chief to the sinister-base; and contains the fifth part of the field in breadth, if uncharged; but if charged, then the third. Its diminutives are, the bendlet, which is the half of a bend; the cost or cotice, when two of them accompany a bend, which is the fourth part of a bend; and the ribband, the moiety of a cost, or the eighth part of the field.

There is also the bend-sinister, which is of the same breadth as the bend, but drawn the contrary way: this is subdivided into a scrape, which is the half of the bend, and into a bâton, which is the fourth part of the bend, but does not extend itself to the extremities of the field, there being part of it seen at both ends. See the examples, fig. vii.

Ex. 1. "Argent, a Bend wavy Sable;" borne by the right hon. John Wallop, earl of Portsmouth, &c. Plate CCXXIX. This noble earl is descended from the Wallops of Hampshire, a Saxon family, who were possessed of lands to a considerable value in the county at the time of the conquest.

2. "Checky Or, and Azure, a Bend Ermine;" borne by the right hon. John Ward, viscount Dudley and Ward, &c. The ancestors of this noble lord were anciently of the county of Norfolk, of which was Simon Ward, who had large possessions in the reign of Edward I. and was in France and Scotland in the reigns of king Edward II. and III.

3. "Azure, a Bend engrailed Argent, between two Cotices Or;" borne by the right hon. Matthew Fortescue, lord Fortescue, as also by the right hon. Hugh Fortescue-Aland, baron Fortescue, in the kingdom of Ireland, this last nobleman bearing a crescent in his arms for difference. The family of Fortescue is descended from Sir Richard le Forte, a person of extraordinary strength and courage, who accompanied William duke of Normandy in his invasion of England; and bearing a strong shield before the duke, at the battle of Hastings, had three horses killed under him, and from that signal event the name and motto of the family were assumed; for the Latin word *scutum*, or the old French word *escue* "a shield" being added to *forte* "strong," compose their name; and the motto is, *Forte scutum salus ducum*.

4. "Sable, a Bend Argent between two Cotices indented Or;" borne by the name of *French*.

5. "Paly of six Or and Sable, a Bend counterchanged;" borne by the right hon. Frederick Calvert, baron Baltimore. The original of this family is from an ancient and noble house of that surname in the earldom of Flanders, whereof Sir George Calvert, knight, among other honourable employments, was secretary of state to king James I. by whom he was created a baron, Feb. 20. 1624, and from whom he had a grant to him, and his heirs, of the province of Maryland and Avalon in America.

6. "Party per Bend crenelle Argent and Gules;" borne by the right hon. Edmund Boyle, earl of Cork and Orrery, &c. in the kingdom of Ireland. This noble lord is said to be descended from Sir Philip Boyle,

Of the
Bend, &c.

Boyle, a knight of Arragon, who, in the reign of king Henry VI. tilted at a tournament with Sir Joseph Astley, knight of the Garter.

7. "Argent, three Bendlets enhanced Gules;" as the English express it, but the phrase enhanced is used by no other nation. The proper blazon of this arms is, Parted per bend, 1st bendy of six gules, and argent; 2d of the last. Borne by the right hon. William Byron, lord Byron. From Doomsday-book it appears, that this family was possessed of numerous manors and lands in the reign of the Conqueror; and that Sir John Byron, one of his lordship's ancestors, attended king Edward III. in his wars in France.

8. "Ermine, a Bend voided Gules;" borne by the name of *Ireton*.

9. "Argent three Bendlets wavy Azure;" borne by the name of *Wilbraham*.

10. "Bendy of six pieces Argent and Azure." Observe, that when the shield is filled with an equal number of bendlets of metal and colour, it is called *bendy*; but if the number of them is unequal, they are to be blazoned by the name *bendlets*, and their number specified.

11. "Party per Bend Azure and Argent, two Bendlets engrailed counterchanged;" borne by the name of *Frenes*.

12. "Quarterly, Or and Gules, a Bend over-all Vair;" borne by his grace Lionel Cranfield Sackville, duke of Dorset and earl of Middlesex, &c. The ancestors of this family were lords of the town and feigniory of Sackville in Normandy, and came over with the Conqueror when he invaded England in 1066.

13. "Gules on a Bend Argent, three Trefoils slipped proper;" borne by the right hon. George William Hervey, earl of Bristol, &c. This noble lord derives his pedigree from Robert Fitz-Hervey, a younger son of Hervey duke of Orleans, who came over from France with William the Conqueror.

14. "Argent, on a bend Gules cotised Sable, three pairs of Wings conjoined of the first;" borne by the right hon. Richard Wingfield, viscount Powerscourt, in the kingdom of Ireland. This noble lord is denominated from the manor of Wingfield in Suffolk, where they had a seat before the Norman conquest, called *Wingfield-castle*.

15. "Gules, on a Bend contre Ermine cotised Or, three Boars Heads couped Argent;" borne by the right hon. George Edgcumbe, lord Edgcumbe, &c. The ancestors of this noble lord received their name from the manor of Edgcumbe in Devonshire. One of this lord's ancestors was Sir Richard Edgcumbe, who came over to England with the earl of Richmond, having a great share in the victory he obtained over king Richard III. at Bosworth, by which the earl made his way to the throne of England.

16. "Argent, a Bend sinister Gules."

17. "Or, a Bendlet Gules."

18. "Argent, a Ribband Gules."—The name of this bearing corresponds well with its form, being both long and narrow, which is the shape of a ribband.

19. "Azure, a Scrape Or."—This bearing, as Guillim observes, is that kind of ornament called now-a-days a *Scarf*, which is used by officers on duty, and usually worn after the same manner.

N^o 152.

20. This contains three Batons. The first is com-
pony ermine and azure; set over the royal arms, for his grace William Fitzroy duke of Cleveland. The second is compony argent and azure; set over the royal arms, for his grace Augustus Henry Fitzroy, duke of Grafton. The third is gules, charged with three roses argent, seeded and barbed proper; set over the royal arms, for his grace George Beauclerk, duke of St Albans. The grandfathers of these noble dukes being natural sons of king Charles II. is what intitles them to the royal arms.

ART. IV. Of the FESS and BAR.

THE Fess is an ordinary which is produced by two parallel lines drawn horizontally across the centre of the field, and contains in breadth the third part thereof. Some English writers say it has no diminutive, for the bar is a distinct ordinary of itself.

The Bar, according to their definition, is formed of two lines, and contains but the fifth part of the field: which is not the only thing wherein it differs from the fess; for there may be more than one in an escutcheon, placed in different parts thereof, whereas the fess is limited to the centre-point; but in this the French differ from them. The bar has two diminutives; the barulet, which contains the half of the bar; and the closet, which is the half of the barulet. When the shield contains a number of bars of metal and colour alternate, of even number, that is called *barry* of so many pieces, expressing their number. See the examples, Plate CCXXIX. fig. viii.

N^o 1. is "Argent, a Fess indented Sable;" borne by the right hon. John West, earl Delawarr, &c. This noble family is descended from the Wests, a great family in the west of England; but in the reign of Edward II. they appear to have been seized of manors and lands in the county of Warwick. Sir Thomas de West, knight, one of his lordship's ancestors, being at the battle of Cressy, and there taking John the French king prisoner, had granted him, for that remarkable action, an augmentation to his achievement, viz. a crampette or, distinguished by the chape of a sword in the middle; the chape being given him by the said king, as an acknowledgment of his becoming his prisoner: his cognizance was a rose parted per pale, argent, and gules; which two badges are still borne in the achievement of the present lord Delawarr.

2. "Argent, a Fess wreathed Azure and Gules;" borne by the right hon. John Carmichael, earl of Hyndford. Of this ancient family, which is said to assume their surname from the lands of Carmichael, in the county of Lanark, in Scotland, where they still have their chief seat, was Sir John Carmichael, who accompanied Archibald, earl of Douglas, to the assistance of Charles VI. of France, against the English; and signaling his valour at the battle of Baughey in April 1421, and breaking his spear when the French and Scots got the victory, had thereupon added to his paternal coat, a dexter arm holding a broken spear, which is now the crest of the family.

3. "Party per Fess Or and Argent, a Fess nebule Gules;" borne by the name of *Antesbed*.

4. "Party per Fess indented Or and Azure;" borne by the name of *Saunders*.

5. "Checky

The Fess
and Bar.

HERALDRY.

Plate CCXXIX.

Fig. 7.
BENDS &c.



Fig. 9.
CHEVERON &c.



Fig. 8.
FESSES & BARS.

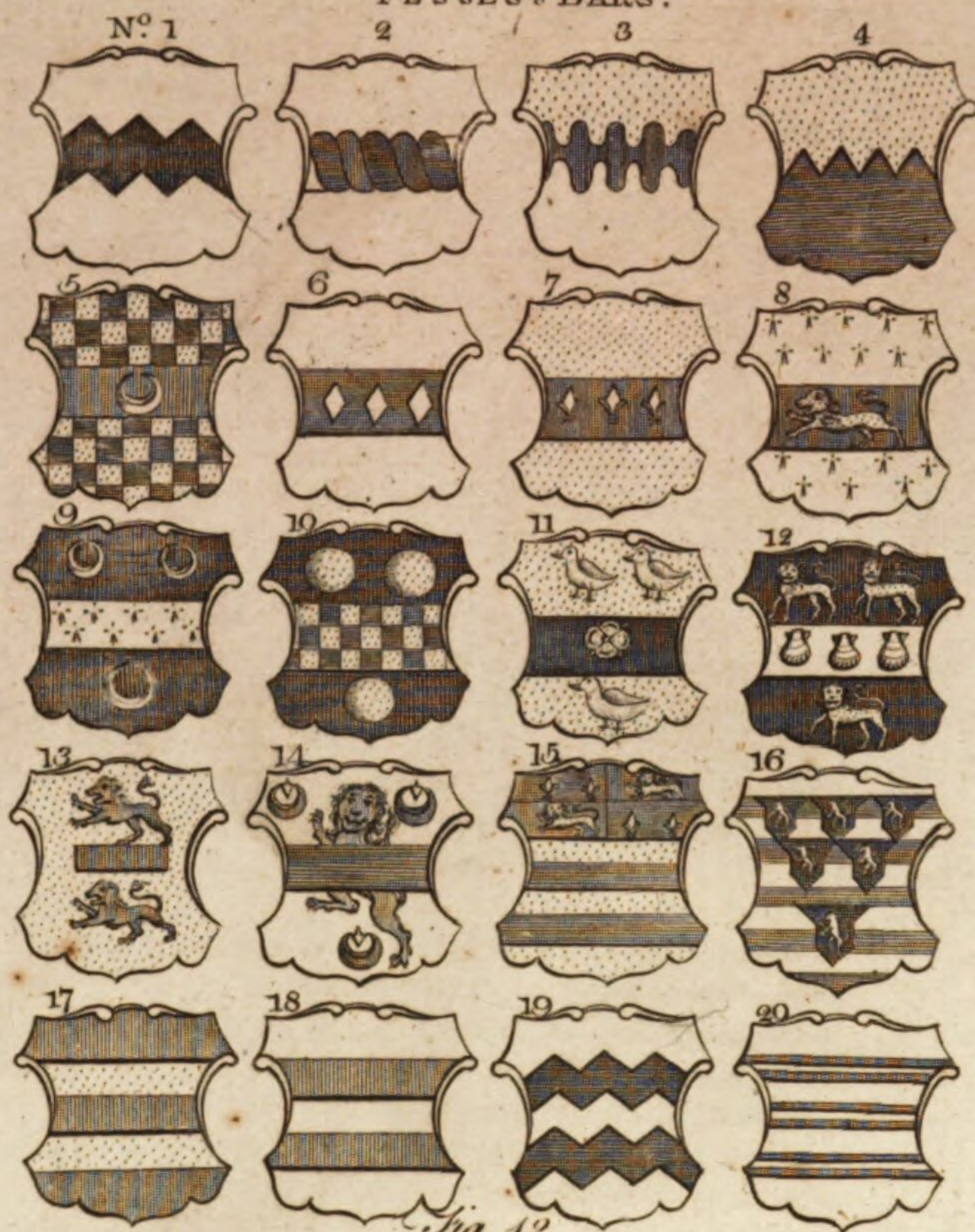
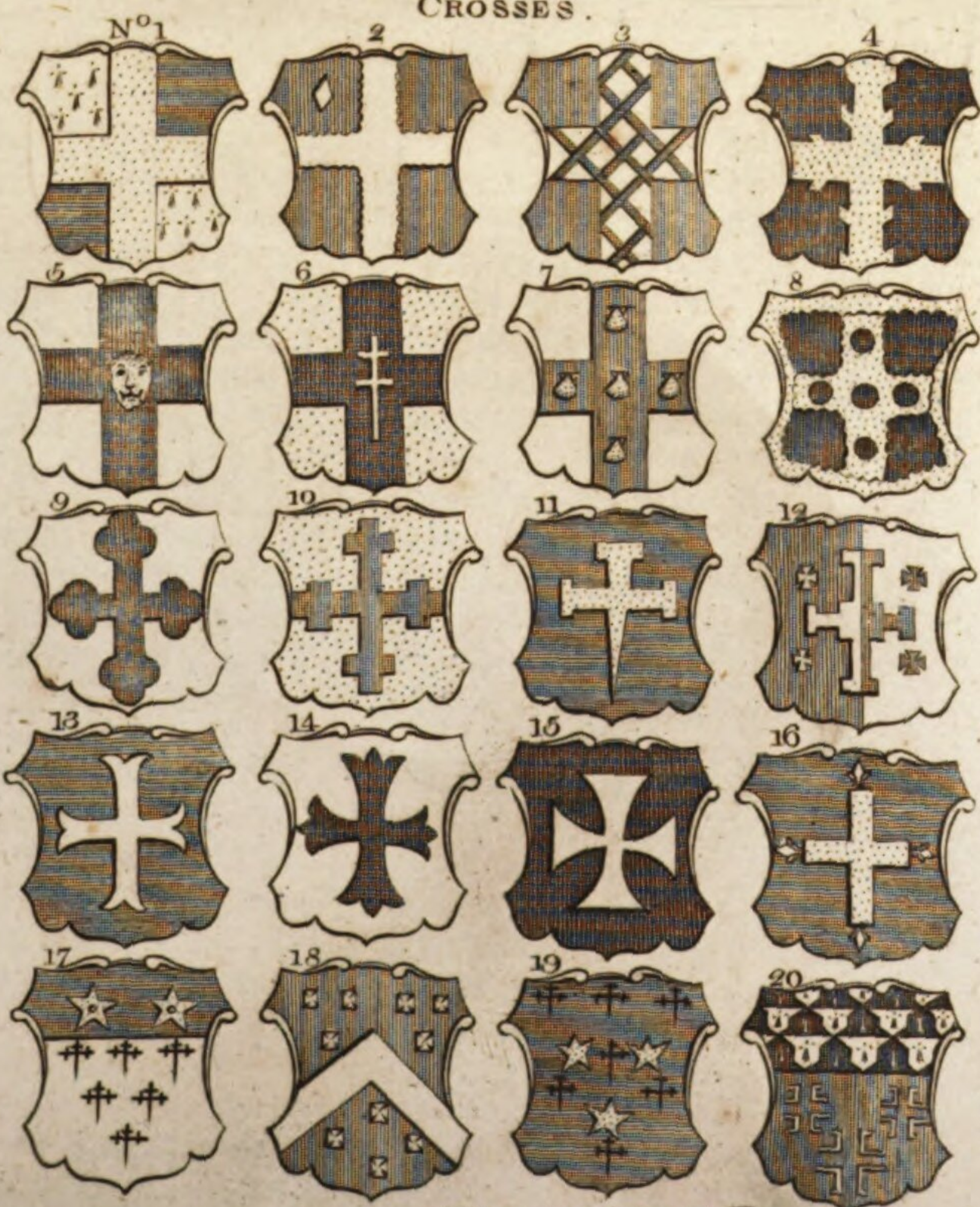


Fig. 12.
CROSSES.



A. Bell Prin. W. A. Sculptor fecit

The Fefs
and Bar.

The Fefs
and Bar.

5. "Checky Or and Azure on a Fefs Gules, a Crescent argent for difference;" borne by the right hon. Hugh Clifford, lord Clifford, of Chudley. This noble lord is descended from Walter de Clifford, of Clifford castle, in the county of Hereford, who came over into England with the Conqueror; of which family was fair Rosamond, mistress to king Henry II.

6. "Argent, on a Fefs Azure, three Lozenges Or;" borne by the right hon. Basil Fielding, earl of Denbigh and Desmond, &c. This noble earl is descended from the earls of Hapsburg, in Germany. Geoffroy earl of Hapsburg, being oppressed by Rodolph emperor of Germany, came over into England, and one of his sons served king Henry III. in his wars, whose ancestors laying claim to the territories of Lauffenburg and Rhin-Filding, in Germany, he took the name of *Fielding*.

7. "Or, on a Fefs Gules, three Fleur-de-lis of the first;" born by the name of *Lennard*. This is in the first and fourth quarters of the right hon. Thomas Barret Lennard lord Dacre's arms.

8. "Ermine, on a Fefs Gules, a Lion passant Or;" borne by the right hon. John Proby, baron Carysfort, &c. in the kingdom of Ireland.

9. "Sable, a Fefs Ermine, between three Crescents Or;" borne by the right hon. George-William Coventry, earl of Coventry, &c. This noble earl is descended from John Coventry, a native of the city of Coventry, and afterwards mercer and lord mayor of London, in the reign of Henry V.; from whom descended Thomas Coventry, one of the justices of the court of common-pleas, in the reign of queen Elizabeth; whose son Thomas was recorder of London, and afterwards lord keeper of the great seal in the reign of king Charles I.

10. "Sable, a Fefs checky, Or and Azure, between three Bescants;" borne by the right hon. Ridgeway Pitt, earl and baron of Londonderry, &c. Of this noble family, which were anciently of Bandfort, in the county of Dorset, was Thomas Pitt, Esq; who, in the reign of queen Anne, was made governor of fort St George in the East Indies, where he resided many years, and purchased a diamond, which he sold to the king of France for 125,000l. Sterling, weighing 136 carats, and commonly known at this day by the name of *Pitt's diamond*.

11. "Or, on a Fefs Sable, between three Muscovy Ducks proper, a Rose of the Field;" borne by the right hon. John Bateman, viscount Bateman, &c. Of this noble family, which was anciently seated at Halebrook, near St Omers in Flanders, was Giles Bateman, Esq; whose son was a merchant of London, and was father to Sir James Bateman, knight, who, in 1712, was chosen member of parliament for Ilchester in the county of Somerset, and re-chosen in 1713.

12. "Sable, on a Fefs Argent, between three Leopards passant guardant Or, three Escalops Gules;" borne by the right hon. Wills Hill, earl of Hillsborough, &c. Of this family, which, in the reign of queen Elizabeth, were of note in the county of Downe, was Sir Moses Hill, who, during O'Neile's rebellion, was one of those gentlemen who associated under the earl of Essex to suppress it; and afterwards served under Arthur lord Chichester, lord deputy, and by king James I. was appointed provost-marshal of the whole province of Ulster in Ireland.

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13. "Gules, two Bars Or;" borne by the right hon. Simon Harcourt, earl of Harcourt, &c. This noble earl is descended from the Harcourts of Normandy, who took their name from a place called *Harcourt*, in that province, where the family usually resided. Gervaise, count de Harcourt, with his two sons Jeffrey and Arnold, came over with the conqueror, when he invaded England in 1066.

14. "Ermine, two Bars Gules;" borne by the right hon. Thomas Nugent, earl of Westmeath, and baron Delvin.

15. "Argent, two Bars indented Sable;" borne by the right hon. Godart Ginkle, earl of Athlone. Godart, who was the first earl, was descended of a very ancient family in the united provinces of Holland, where he was baron de Reede and Ginkle, &c. In 1691, he was a lieutenant-general of king William's forces in Ireland; where, in June the same year, he took Ballymore for the English; and, in July following, the Irish town of Athlone, which last exploit is one of the greatest recorded in history.

16. "Argent, three Bars gemels Gules;" borne by the right hon. Richard Barry, earl of Barrymore, &c. This noble family, who have been renowned for their loyalty and valour, are said to derive their surname from the island of Barry, in the county of Glamorgan, in Wales; and from their riches and estates have been called by the people *Barrymore*, or the Great Barry.

17. "Or, a Fefs-couped Gules, between two Lions passant Sable;" borne by the right hon. Samuel Masham, lord Masham, &c. This noble lord is descended from Sir John Masham, who flourished in the reign of king Henry VI. and was buried at Thorneham, in the county of Suffolk, in 1455.

18. "Argent, a Lion rampant guardant Gules, debriused by a Fefs Azure, between three Etoiles issuing out of as many Crescents of the second;" borne by the right hon. Robert Dillon, earl of Roscommon, &c. in the kingdom of Ireland. This noble family is derived from Logan, surnamed *Delune* or *Delion*, which signifies brave and valiant, to whom the duke of Aquitaine gave his daughter in marriage, in whose right, after her father's death, he became prince and sovereign of Aquitaine, which continued in his posterity till Henry II. married Alionora, daughter and heir to William V. duke of Aquitaine, and about 1172 obtained that principality by superior force; and, to prevent any disturbance, brought Sir Henry Delion or Dillon, and his brother Thomas, then infants, to England, their father being slain.

19. "Or, two Bars Azure, a Chief quarterly of the second and Gules, the 1st and 4th charged each with two Fleur-de-lis of France; the 2d and 3d with a Lion of England;" borne by his grace John Manners, duke of Rutland, marquis of Granby, &c. This chief was anciently Gules; and the charge thereon is an honorary augmentation, showing his grace's descent from the blood-royal of king Edward IV.

20. "Barry of ten pieces Argent and Azure, over all six Escutcheons; 3, 2, 1, Sable, each charged with a Lion rampant of the first, armed, and langued Gules, a Crescent for difference;" borne by the right hon. James Cecil, earl of Salisbury, &c. This noble earl is descended from the famous *William Cecil* lord Burleigh, statesman in the reigns of Edward VI.

3 K

and

Of the
Cheveron.

and Elizabeth. This great man left two sons, Thomas and Robert, who were both made earls in one day, May 4. 1603. Robert, the younger son, ancestor of the present noble lord, was created earl of Salisbury in the morning; and Thomas, the eldest, earl of Exeter in the afternoon.

ART. V. Of the CHEVERON.

THE Cheveron, which represents two rafters of a house well jointed together, or a pair of compasses half open, takes up the fifth part of the field with the English, but the French give it the third. Its diminutives are, The cheveronel, which contains the half of a cheveron; and the couple-close, which is the half of a cheveronel, that is, its breadth is but the fourth part of a cheveron. Leigh observes, that this last diminutive is never borne but in pairs, or with a cheveron between two of them. The French have but one diminution of this ordinary called *Etaie*, containing the third part of its breadth.

Plate
CCXXIX.

Examples of cheverons are given in fig ix. viz.

1. "Argent, a Cheveron Gules between three Torteaux;" borne by the right hon. Bennet Sherard, earl of Harborough, &c. This noble earl is lineally descended from Scherard, who was possessed of manors and lands to a great value in the counties of Cheshire and Lancashire in the reign of William the Conqueror. Geoffroy, another of this earl's ancestors, was three times sheriff of Rutlandshire, in the reigns of king Edward IV. and king Richard III.

2. "Sable, a Cheveron between three Etailes Argent;" borne by the right hon. Marmaduke Langdale, lord Langdale. This noble lord is descended from the Langdales of Yorkshire, who resided at the town of Langdale, from whence they took their name, in the reign of king John; but his ancestor, who makes the greatest figure in history, is Sir Marmaduke Langdale, who raised forces in the north of England in defence of king Charles I. was victorious in numberless battles and sieges; and when his majesty, by the united forces of England and Scotland, was at length overpowered, he attended king Charles II. in his exile, and returned to England with his majesty at the restoration.

3. "Sable, a Cheveron between three Leopards Heads Or;" borne by the right hon. William Wentworth, earl of Strafford, &c. All genealogists agree, that the name of *Wentworth* is of Saxon original, and taken from the manor of Wentworth in Yorkshire, where, in the reign of William the Conqueror, lived Reginald de Wentworde, as it is spelt in doomsday-book.

4. "Argent, a Cheveron between three Grifons passant Sable, a Crescent for difference;" borne by the right hon. Heneage Finch, earl of Ailesford, &c. This family is descended from Herbert Fitz-Herbert, earl of Pembroke, and chamberlain to king Henry I. They took the name of *Finch* in the reign of king Edward I. One of the ancestors of the present earl was the right hon. Heneage Finch, earl of Nottingham, who was constituted lord high-chancellor of England in 1675; and lord high-steward on the trials of Philip earl of Pembroke, and William viscount Stafford, in 1680.

5. "Azure, a Cheveron Ermine, between three

Escalops Argent;" borne by the right hon. George Townshend, viscount Townshend, &c. This family is of Norman extraction, and came into England about the time of the conquest. Charles, lord viscount Townshend, grandfather of the present viscount, was appointed principal secretary of state in the reign of king George I. in 1720, and continued so to the end of his majesty's reign; when, upon resigning the seals, they were returned to him again by his late majesty king George II. who continued him in that honourable office to the year 1730.

6. "Azure, a Cheveron between three Mulletts Or;" borne by the right hon. John Chetwind viscount Chetwind, &c. of the kingdom of Ireland. Of this family, which hath been of great antiquity in the county of Salop, taking their surname from Chetwynd in that county, was Adam de Chetwynd, who married Agnes daughter of John lord Lovel, baron of Dockinges, and lord of Minster Lovel in Oxfordshire; and by her had issue Sir John de Chetwynd, who, in the 37th of Henry III. had a charter of free-warren, thro' all his demesne in the counties of Salop, Stafford, and Warwick.

7. "Argent, a Cheveron Gules, between three square Buckles Sable;" borne by the right hon. Matthew Ducie-Morton, lord Ducie, &c. This noble lord is descended from the Ducies in Normandy. After they came into England, king Edward I. conferred on them the lordship of Morton in Staffordshire, and several other lordships and manors, which the family enjoyed for many years. Sir Robert Ducie, one of his lordship's ancestors, was lord-mayor of London in the reign of king Charles I. and though he lent his majesty L. 80,000, which was lost by the king's being driven out of London, he died, however, worth L. 400,000.

8. "Argent, a Cheveron Checky Gules, and of the Field, between three Bugle-horns strung Sable, garnished of the second;" borne by the right hon. lord Hugh Semple, lord Semple. The principal family of this name was Semple of Elliotston in Renfrew, where they had large possessions and offices, as stewards and bailiffs under the family of Stewart, proprietors of that county before they came to the crown. The first lord Semple was Sir Robert, who, being much in favour with king James IV. was by him created lord Semple in 1489.

9. "Argent, a Cheveron engrailed between three Lions passant Sable;" borne by the right hon. and the reverend Philip Smithe, viscount Strangford. One of this lord's ancestors was John Smithe, Esq; who acquired a considerable estate whilst he was farmer of the customs in the reign of Henry VIII. He left two sons, John and Sir Thomas; which last was sent ambassador by king James I. to the empress of Russia.

10. "Quarterly Argent and Azure, a Cheveron engrailed counter-changed;" borne by the name of *Chamber*.

11. "Party per Cheveron engrailed Gules and Argent, three Talbots Heads erased counter-changed;" borne by the right hon. Anthony Duncombe, lord Feverham, &c. His lordship is descended from the Duncombes of Barley-end in Buckinghamshire. Sir Charles Duncombe, uncle to the present lord, was lord-mayor of London in 1709; and this nobleman was created

Of the Cheveron. created lord Feverham and baron of Downton in Wiltshire, June 23. 1744.

12. "Paly of fix, Argent and Gules, on a Cheveron Azure, three Cross-crosets Or;" borne by the name of *Carpenter*, baron Carpenter, of Killaghy in Ireland. This ancient and noble family are of great antiquity in the county of Hereford, and have been lords of the manor of the Home in the parish of Delwyn, near Weobly, for above 300 years. George, the first lord Carpenter, was so created May 4. 1719.

13. "Azure, on a Cheveron Or, between three Belants, a Bay Leaf Proper;" borne by the right hon. James Hope, earl of Hopeton, &c. This noble family is descended from Henry Hope, a native of Holland, who, about two centuries ago, came over and settled in Scotland. Charles Hope, Esq; grandfather of the present earl, was created an earl by queen Anne, April 15. 1703.

14. "Vert, on a Cheveron between three Unicorns Heads erased Argent, horned and maned Or, three Mulletts Sable;" borne by the name of *Ker*, being the 1st and 4th quarters in the arms of his grace John Ker, duke of Roxburgh, &c. This ancient family is said to come from Normandy. John Ker, marquis of Beaumont and Cesford, the first duke of Roxburgh, was so created April 27. 1707.

15. "Azure, on a Cheveron Or, between three Bears Heads couped Argent, muzzled Gules, a Roebuck's Head erased, between two Hands holding Daggers all proper;" borne by the right hon. Donald Mackay, lord Reay. This family is said to derive their descent from Alexander, a younger son of Ochonacker, who, about the end of the twelfth century, came from Ireland; and the fourth in descent from him was Donald of Strathnavern, whose son was named *T More*: and from him began the surname of *Mac T*, *Mackie*, or *Mackay*. Donald, the first lord of this family, was created baronet in 1625, and on June 20. 1628, was created baron Reay of the county of Caithness, by Charles I.

16. "Ermine, on a Cheveron Azure, three Foxes Heads erased Or, and in a Canton of the second a Fleur-de-lis of the third;" borne by the right hon. Stephen Fox, earl of Ilchester, &c. Of the family of Fox there have been many persons of note living in the counties of Dorset, Somerset, Wilts, and Hants, particularly Richard Fox, bishop of Winchester. His lordship was created lord Ilchester and baron Strangeways, May 11. 1741, 14 Geo. II. and earl of Ilchester in June 1756.

17. "Or, two Cheveronels Gules;" borne by the right hon. John Monson, lord Monson. This noble lord is descended from John Monson, who flourished in the reign of king Edward III. from whom descended another John, who attended king Henry V. in his wars in France. Sir John Monson, bart. father of the present lord, was created lord Monson, May 28. 1728.

18. "Or, on a Fess, between two Cheveronels Sable, three Cross-crosets of the first;" borne by the right hon. George Walpole, earl of Orford, &c. This family took their name from Walpole in Norfolk, where they resided before the conquest. Sir Robert Walpole was, in king George II.'s reign, elected

knight of the garter in 1726, and created earl of Orford, February 9. 1741-2.

19. "Azure, three Cheveronels interlaced Or, and a Chief of the last;" borne by the name of *Fitz-Hugh*.

20. "Argent, three Cheveronels Gules, in Chief a Label Azure;" borne by the right hon. William Wildman Barrington, viscount Barrington, &c. This family is of Norman extraction; in which duchy, whilst it continued annexed to the English crown, there were to be seen the remains of a castle bearing the name of *Chute* or *Shute*, and formerly in the family, with other monuments in several towns of that duchy. John Shute, the late viscount Barrington, was in 1708 made a commissioner of the customs, and succeeded to the estates of Francis Barrington, Esq; and of John Wildman of the county of Berks, who made him their heir; and, in pursuance of the will of the former, he took the name and arms of *Barrington*. On June 11. 1720, he was created viscount Barrington.

ART. VI. Of the Cross.

THE *Cross* is an ordinary formed by the meeting of two perpendicular with two horizontal lines in the fess-point, where they make four right-angles; the lines are not drawn throughout, but discontinued the breadth of the ordinary, which takes up only the fifth part of the field when not charged; but if charged, then the third. It is borne as well engrailed, indented, &c. as plain.

There is so great a variety of crosses used in heraldry, that it would be a very difficult task to treat of them all. Guillim has mentioned 39 different sorts; De la Columbiere, 72; Leigh, 46; and Upton declares he dares not ascertain all the various crosses borne in arms, for that they are almost innumerable: therefore, as all their forms cannot be expected here, we will only take notice of such as are most commonly seen at present in coats-of-arms. See Fig. x.

The first is "Quarterly, Ermine and Azure, a Cross Or;" borne by his grace Thomas Osborne duke of Leeds, &c. This noble duke is descended from the honourable family of the Osbornes of Ashford, in the county of Kent; Sir Thomas Osborne, the grandfather to the present duke, was advanced to the peerage by king Charles II.

2. "Gules, a Cross engrailed Argent, a Lozenge in the dexter-chief of the second;" borne by the right hon. Edward Leigh, lord Leigh. This family took their surname from the town of High-Leigh in Cheshire, where they resided before the Norman conquest. Sir Thomas Leigh, the first lord of this family, was created baron Leigh of Stonely, by king Charles I. on July 1. 1643.

3. "Gules, a Cross Argent fretty Azure;" borne by the right hon. Nicholas Taaffe, viscount Taaffe, of Corran, &c. in Ireland. Of this noble and ancient family was Richard Taaffe, who lived in 1282; as in 1306 did John Taaffe, who was archbishop of Armagh; and, in 1479, the order of the Garter being established in Ireland, Sir Nicholas Taaffe was one of the first members; and John, his son and heir, was created a baron and viscount by Charles I. August 1. 1628.

Of
the Crofs.

4. "Sable, a Crofs raguly Or;" borne by the name of *Stoway*.

5. "Argent, on a Crofs Sable, a Leopard's face Or;" borne by his grace Henry Brydges duke of Chandos, &c. The ancestors of this noble family took their name from the city of Bruges in Flanders; and one of them came over with William the Conqueror, and had a considerable share in the victory obtained near Hastings in Suffex, 1066. James, the father of the present duke, was created viscount Wilton and earl of Caernarvon, October 19. 1714; and marquis of Caernarvon and duke of Chandos, — 30. 1719.

6. "Or, on a Crofs Sable, a patriarchal Crofs of the Field;" borne by the right hon. Thomas Vesey, baron of Knapton in the kingdom of Ireland. The truly noble family of Vesey of Vesey, derives its origin from Charles the Great, king of France, and emperor of the west, who died at Aix-la-Chapelle in Germany, Jan. 28. 814. His lordship's father was created a peer April 10. 1750.

7. "Argent, on a Crofs Gules, five Escalops Or;" borne by the right hon. William Villiers earl of Jersey, &c. This noble earl is descended from the family of Villiers in Normandy, some of whom came over to England with the Conqueror; several manors and lands in England being soon after granted to Pagan de Villiers, one of this earl's ancestors. The first peer of this family was created a baron and viscount, March 20. 1690.

8. "Sable, on a Crofs within a Bordure engrailed Or, five Pellets;" borne by the right hon. Francis Greville, earl of Brooke and Warwick, &c. The ancestors of this noble family are of Norman extraction, and came over with William the Conqueror, who conferred manors and lands on them in England, of a considerable value; and at length they obtained the government of the castle of Warwick, the present seat of the family. Sir Fulke, the first peer of this family, was created baron Brooke by king James I. Jan. 9. 1620.

9. "Argent, a Crofs botonny Sable;" borne by the name of *Winwood*.

10. "Or, a Crofs-croset Gules;" borne by the name of *Taddington*.

11. "Azure, a Crofs potent fitchy Or." This ensign is said to have been borne by Ethelred king of the West Saxons; and crosses of this sort are frequently met with in coats-of-arms.

12. "Party per pale, Gules and Argent; a Crofs potent quadrate in the centre, between four Crosses pattee counter-changed;" the arms of the episcopal see of Litchfield and Coventry. This see was originally fixed at Litchfield; from thence removed to Chester, and from both to Coventry. It contains the whole county of Stafford, except two parishes; all Derbyshire; the better part of Warwickshire, and near half Shropshire; divided into the four archdeaconries of Coventry, Stafford, Derby, and Salop. The parishes are 557 in number; but, including chapels, they amount to 643.

13. "Azure, a Crofs moline Argent;" borne by his grace Cavendish Bentinck, duke of Portland, &c. This noble duke is descended from a very ancient and distinguished family in the United Provinces of Holland, of which was William Bentinck, Esq; who,

in his youth was page of honour to William prince of Orange, afterwards William III. king of Great Britain, and, on the accession of William and his consort, was made groom of the stole, privy-purse to his majesty, lieutenant-general of his majesty's army, &c. and also created baron of Cirencester, viscount Woodstock, and earl of Portland, April 19. 1689.

14. "Argent, a Crofs patonce Sable;" borne by the name of *Rice*.

15. "Sable, a Crofs patee Argent;" borne by the name of *Maplesden*.

16. "Azure, a Crofs flowery Or;" borne by the name of *Cheney*.—This is said to have also been the arms of Edwin, the first Christian king of Northumberland.

17. "Argent, six Crofs crosets fitchy 3; 2, 1, Sable, on a Chief Azure, two Mulletts pierced Or;" borne by his grace Henry Clinton, duke of Newcastle, &c. This noble family is descended from Jeffrey de Clinton, lord chamberlain and treasurer to king Henry I. grandson to William de Tankerville, chamberlain of Normandy; from whom descended William de Clinton, chief justice of Chester, governor of Dover castle, lord Warden of the king's forests south of Trent. Edward lord Clinton, another of this noble earl's ancestors, was constituted lord high-admiral of England for life, in the reign of queen Elizabeth, who created him earl of Lincoln, May 4. 1572.

18. "Gules, a Cheveron between ten Crosses pattee, six above and four below, Argent;" borne by the right hon. Frederick-Augustus Berkeley, earl of Berkeley, &c. This noble family is descended from Robert Fitz-Harding, who obtained a grant of Berkeley-castle in Gloucestershire, which the family still inherits, and from whence they obtained the surname of *Berkeley*, from Henry duke of Normandy, afterwards king of England; the said Robert Fitz-Harding was descended from the royal line of the kings of Denmark.

19. "Azure, three Mulletts Or, accompanied with seven Crofs-crosets fitchy Argent, three in Chief, one in Fess, two in Flanks, and the last in Base;" borne by the right hon. James Somerville, lord Somerville. The first of this name on record is Sir Walter de Somerville, lord of Wichnore, in the county of Stafford, who came to England with William the Conqueror.

20. "Gules, three Crosses recercele, voided Or, a Chief vairy ermine and contre ermine;" borne by the right hon. John Peyto Verney, baron Willoughby de Broke. This noble lord is descended from William de Vernai, who flourished in the reign of king Henry I. 1419.

ART. VII. Of the SALTIER.

THE Saltier, which is formed by the bend and bend-finister crossing each other in right angles, as the intersecting of the pale and fess forms the cross, contains the fifth part of the field; but if charged, then the third. In Scotland, this ordinary is frequently called a *St Andrew's cross*. It may, like the others, be borne engrailed, wavy, &c. as also between charges or charged with any thing. See examples, fig. xi.

Of the
Saltier.Plate
CCXXIX.Of the
Saltier.

N^o 1. is "Argent, a Saltier Gules;" borne by his grace James Fitz-Gerald, duke of Leinster, &c. This noble lord is descended from Otho, or Other, a rich and powerful lord in the time of king Alfred, descended from the dukes of Tuscany; who passing from Florence into Normandy, and thence into England, there the family flourished, until Richard Strongbow, earl of Pembroke, their kinsman, engaged them to partake in his expedition to Ireland, in which Maurice Fitz-Gerald embarked, and was one of the principal conquerors of that kingdom, for which he was rewarded with a great estate in lands in the province of Leinster, and particularly the barony of Offaley, and the castle of Wicklow; and died, covered with honours, in the year 1177, 24 Henry II.

2. "Gules, a Saltier Argent, between twelve Cross crosets Or;" borne by the right hon. Other-Lewis Windsor Hickman, earl of Plymouth, &c. This noble earl is descended from Robert Fitz-Hickman, lord of the manor of Bloxham, Oxfordshire, in the 56 Hen. III. 1272; and he is maternally descended from the noble family of the Windsors, who were barons of the realm at the time of the conquest.

3. "Vert, a Saltier wavy Ermine;" borne by the name of *Wakeman* of Beckford, in Gloucestershire.

4. "Ermine, a Saltier counter-compony Or and Gules;" borne by the name of *Ulmston*.

5. "Argent, a Saltier Azure with a Bezant in the centre;" borne by the right hon. Philip Yorke, earl of Hardwicke, &c. He was in October 1733 constituted lord chief-justice of the king's bench, and November 23. in the same year, created baron Hardwicke of Hardwicke.

6. "Argent on a Saltier Gules an Escalop Or;" the arms of the bishoprick of Rochester—This diocese, the least in England, comprehends only a small part of Kent, in which there are 150 churches and chapels; and the two parishes in Iselham in Cambridgeshire, and Frekenham in Suffolk. It has only one archdeacon, that of Rochester. For many years it was in the immediate patronage of the archbishop of Canterbury.

7. "Party per Saltier, Azure and Argent, on a Saltier Gules, a Crescent of the second for difference;" quartered by the right hon. William Hall Gage, viscount Gage, of Castle-Island in Ireland. This noble family is of Norman extraction, and derives descent from de Gaga or Gage, who attended William I. in his expedition to England; and, after the conquest thereof, was rewarded with large grants of lands in the forest of Dean, and county of Gloucester, near which forest he fixed his residence, by building a seat at Clerenwell, in the same place where the house of Gage now stands: he also built a great house in the town of Cirencester, at which place he died, and was buried in the abbey there. Sir Thomas Gage, the eighth baronet, was created baron of Castle-Bar, and viscount Gage, 1721.

8. "Gules, on a Saltier Argent, a Rose of the first barbed and seeded proper;" borne by the right hon. George Neville, lord Abergavenny, premier baron of England.

9. "Or, on a Saltier Azure, nine Lozenges of the first;" the paternal arms of the right hon. John Dalrymple, earl of Stair, &c. Of this family, which took their surname from the barony of Dalrymple, ly-

ing on the river Dun in Ayrshire, Scotland, was Adam de Dalrymple, who lived in the reign of Alexander III.

10. "Argent, on a Saltier engrailed Sable, nine Annulets Or;" borne by the name of *Leak*.

11. "Gules, a Saltier between four Crescents Or;" borne as the second and third quarters in the coat of arms of the right honourable Charles Kinnaird, lord Kinnaird. George Kinnaird, Esq; one of the present lord's ancestors, being of great service to king Charles II. during the usurpation of Oliver Cromwell, he was by that prince, at his restoration, made one of the privy council; and December 28. 1682, created a baron.

12. "Argent, a Saltier engrailed between four Roses Gules," for Lennox; and borne as first and fourth quarters in the coat of arms of the right hon. Francis Napier, lord Napier. This family is said to be descended from the ancient thanes or stewards of Lennox in Scotland, but took their surname of Napier from the following event. King David II. in his wars with the English, about the year 1344, convocating his subjects to battle, the earl of Lennox sent his second son Donald, with such forces as his duty obliged him; and, coming to an engagement, where the Scots gave ground, this Donald, taking his father's standard from the bearer, and valiantly charging the enemy with the Lennox men, the fortune of the battle changed, and they obtained the victory; whereupon every one advancing, and reporting their acts, as the custom was, the king declared they had all behaved valiantly, but that there was one among them who had *na pier*, that is, no equal; upon which the said Donald took the name of Napier, and had, in reward for his good services, the lands of Gosfield, and other estates in the county of Fife.

13. "Gules, a Saltier Or, surmounted of another Vert," for the name of *Andrews*; and borne by Sir William Andrews, bart. of Denton in Northamptonshire, who is descended from Sir Robert Andrews of Normandy, knight, who came into England with William the Conqueror. Sir William Andrews, the first baronet of this family, was created December 11. 1641.

14. "Azure, a Saltier quarterly quartered Or and Argent." The arms of the episcopal see of Bath and Wells.—The diocese of Bath and Wells contains all Somersetshire, except a few churches in Bristol. And in it there are three archdeaconries, viz. those of Wells, Bath, and Taunton. The number of the parishes is 388, though, according to some, the total number of the churches and chapels amounts to 503.

15. "Party per Saltier Argent and Gules, a Saltier counter-changed."

16. "Party per Pale indented Argent and Sable, a Saltier counter-changed;" borne by the name of *Scote*.

17. "Argent, three Saltiers coupé and engrailed Sable;" borne by the name of *Benton*.

18. "Argent, a Saltier Gules, and a Chief Ermine;" borne by the right hon. Francis Thomas Fitz-Maurice, earl of Kerry, &c. This very ancient and noble family is a branch of the family of Kildare, who are originally descended from the great duke of Tuscany, and of which was Otho, a noble baron of Italy, whose son Walter, attending the Norman conqueror into

Sub-
Ordinaries.

into England, was made constable of the castle of Windsor. Raymond, one of the present earl's ancestors, had a principal hand in the reduction of Ireland to the subjection of Henry II. and Dermoid Mac-Carty, king of Cork, sought his aid against his son Cormac O'Lehanagh, which he undertook, and delivered the king from his rebellious son; for which that prince rewarded him with a large tract of land in the county of Kerry, where he settled his son Maurice, who gave his name to the county, which he called *Clan Maurice*, and is enjoyed by the present earl of Kerry, who is viscount *Clan Maurice*. Thomas the first earl, and father of the last, was the 21st lord Kerry, who was created earl January 17. 1722.

19. "Sable, a Saltier Argent, on a Chief Azure, three Fleurs-de-lis Or;" borne by the right hon. John Fitz-Patrick, earl of Upper Ossory, and baron of Gowran in Ireland. This most ancient and princely family is descended from Heremon, the first monarch of the Milesian race in Ireland; and after they had assumed the surname of Fitz-Patrick, they were for many ages kings of Ossory, in the province of Linster. John, the first earl of this family, succeeded his father Richard as Lord Gowran, June 9. 1727, was created earl October 5. 1751, and died 1758.

20. "Party per Pale Argent and Gules, three Saltiers counter-changed;" borne by the name of *Lane*. These arms are also borne, without the least alteration, by the name of *Kingsman*; for which similitude we can no otherwise account, than by supposing there has been some mistake made through many transcriptions.

SECT. II. Of Sub-Ordinaries.

BESIDES the honourable ordinaries and the diminutions already mentioned, there are other heraldic figures, called *sub-ordinaries*, or *ordinaries* only, which, by reason of their ancient use in arms, are of worthy bearing, viz. The Gyron, Franc-quarter, Canton, Pairle, Fret, Pile, Orle, Inescutcheon, Tressure, Annulet, Flanches, Flashes, Voiders, Billet, Lozenge, Gutts, Fusil, Rustre, Mascle, Papillone, and Diaper. See Plate CCXXVII. fig. i. (A.)

The Gyron is a triangular figure formed by two lines, one drawn diagonally from one of the four angles to the centre of the shield, and the other is drawn either horizontal or perpendicular, from one of the sides of the shield, meeting the other line at the centre of the field.

Gyronny is said, when the field is covered with six, eight, ten, or twelve gyrons in a coat-of-arms: but a French author would have the true gyronny to consist of eight pieces only, as in the fig. which represents the coat-of-arms of Flora Campbell countess of Loudon, &c. whose ancestor was created baron of Loudon in 1604 by James VI. and earl of the same place, May 12. 1633, the 9th of Charles I.

The Franc-quarter is a square figure, which occupies the upper dexter quarter of the shield. It is but rarely carried as a charge. *Silvestra Petra Sancta* has given us a few instances of its use.

The Canton is a square part of the escutcheon, somewhat less than the quarter, but without any fixed proportion. It represents the banner that was given to ancient knights-bannerets, and, generally speaking, possesses the dexter-chief-point of the shield, as in the

fig.; but should it possess the sinister corner, which is but seldom, it must be blazoned a canton-sinister.

Sub-
Ordinaries.

James Coats reckons it as one of the nine honourable ordinaries, contrary to most heralds opinion. It is added to coats-of-arms of military men as an augmentation of honour: thus John Churchill, baron of Eymouth in Scotland, and one of the ancestors of the present duke of Marlborough, being lieutenant general to king James II. received from him a canton argent, charged with the red cross of England, added to his paternal coat, "which is Sable, a lion rampant Argent."

The pairle is a figure formed by the conjunction of the upper half of the saltier with the under half of the pale.

The Fret is a figure representing two little sticks in saltier, with a mascle in the centre interlaced. J. Gibbon terms it the *heralds true-lovers knot*; but many dissent from his opinion.

Fretty is said when the field or bearings are covered with a fret of six, eight, or more pieces, as in the fig. The word *fretty* may be used without addition, when it is of eight pieces; but if there be less than that number, they must be specified.

The pile, which consists of two lines, terminating in a point, is formed like a wedge, and is borne engrailed, wavy, &c. as in the fig. It issues in general from the chief, and extends towards the base; yet there are some piles borne in bend, and issuing from other parts of the field, as may be seen in Plate CCXXX. fig. xii. n° 12, &c.

The Orle is an ordinary composed of two lines going round the shield, the same as the bordure, but its breadth is but one half of the latter, and at some distance from the brim of the shield, as in the fig.

The Inescutcheon is a little escutcheon borne within the shield; which, according to Guillim's opinion, is only to be so called when it is borne single in the fess-point or centre; see the fig. on Plate CCXXVII. but modern heralds, with more propriety, give the name of *inescutcheon* to such as are contained in Plate CCXXX. fig. xii. n° 2. and call that which is fixed on the fess-point *escutcheon of pretence*, which is to contain the arms of a wife that is an heiress, as mentioned above.

The Tressure is an ordinary commonly supposed to be the half of the breadth of an orle, and is generally borne flowery and counter-flowery, as it is also very often double, and sometimes treble. See the fig. (Plate CCXXVII.). This double tressure makes part of the arms of Scotland, as marshalled in the royal achievement, Plate CCXXXII. fig. xxi. n° 7. and was granted to the Scots kings by Charlemagne, being then emperor and king of France, when he entered into a league with Achaius king of Scotland, to show that the French lilies should defend and guard the Scottish lion.

The Annulet, or ring, is a well-known figure, and is frequently to be found in arms through every kingdom in Europe. Plate CCXXVII.

The Flanches are formed by two curved lines, or semicircles, being always borne double. See the figure. G. Leigh observes, that on two such Flanches two sundry coats may be borne.

The

Sub-Ordinaries. The Flasks resemble the flanches, except that the circular lines do not go so near the centre of the field; (see the figure). J. Gibbon would have these two ordinaries to be both one, and wrote *flank*; alleging, that the two other names are but a corruption of this last: but as G. Leigh and J. Guillim make them two distinct and subordinate ordinaries, we have inserted them here as such.

The Voiders are by Guillim considered as a subordinate ordinary, and are not unlike the flasks (see the figure), but they occupy less of the field.

The Billet is an oblong square figure, twice as long as broad. Some heralds imagine, that they represent bricks for building; others more properly consider them as representing folded paper or letters.

The Lozenge is an ordinary of four equal and parallel sides, but not rectangular; two of its opposite angles being acute, and the other two obtuse. Its shape is the same with those of our window-glasses, before the square came so much in fashion. See the figure.

Gutts, or drops, are round at bottom, waved on the sides, and terminate at the top in points. Herald's have given them different names according to their different tinctures: thus, if they are

Yellow	} they are called	<i>d' Or</i>
White		<i>d' Eau</i>
Red		<i>de Sang</i>
Blue		<i>de Larmes</i>
Green		<i>de Vert</i>
Black		<i>de Poix</i>

The Fusil is longer than the lozenge, having its upper and lower part more acute and sharp than the other two collateral middle parts, which acuteness is occasioned by the short distance of the space between the two collateral angles; which space, if the fusil is rightly made, is always shorter than any of the four equal geometrical lines whereof it is composed. See the fig. *ibid.*

The Rustre is a lozenge pierced round in the middle (see the figure). They are called by the Germans *rustren*. Menestrier gives an example of them in the arms of Lebarret in France, argent three rustres azure.

The Mascle is pretty much like a lozenge, but voided or perforated through its whole extent, showing a narrow border, as in the figure. Authors are divided about its resemblance; some taking it for the mesh of a net, and others for the spots of certain flints found about Rohan; and as no writer has given a clearer account in support of this last opinion than Colombiere, author of *La Science Heraldique*, we shall transcribe it for the satisfaction of the curious.

"Rohan (says he) bears Gules, nine Mascles Or, 3, 3, 3. Opinions have varied very much about the original of the mascles or meshes, as being somewhat like the meshes of nets: but for my own part, having often observed that those things which are remarkable and singular in some countries, have sometimes occasioned the lords thereof to represent them in their escutcheons, and to take them for their arms, I am of opinion, that the lords of Rohan, who, I believe, are the first that bore these figures in their arms, tho' descended from the ancient kings and princes of Bretagne, took them, because in the most ancient viscounty of Rohan, afterwards erected into a duchy, there are

abundance of small flints, which being cut in two, this figure appears on the inside of them; as also the carps, which are in the fish-ponds of that duchy, have the same mark upon their scales; which, being very extraordinary and peculiar to that country, the ancient lords of the same had good reason, upon observing that wonder, to take those figures for their arms, and to transmit them to their posterity, giving them the name of *mascles*, from the Latin word *macula*, signifying a spot; whence some of that house have taken for their motto, *Sine macula macula*, that is, A mascle without a spot."

Papillone is an expression used for a field or charge that is covered with figures like the scales of a fish. Mons. Baron gives as an example of it the arms of Monti Gueules Papelone d'Argent. The proper term for it in English would be *scallop-work*.

Diapering is said of a field or charge shadowed with flourishings or foliage with a colour a little darker than that on which it is wrought. The Germans frequently use it; but it does not enter into the blazoning or description of an arms, it only serves to embellish the coat.

If the fore-mentioned ordinaries have any attributes, that is, if they are engrailed, indented, wavy, &c. they must be distinctly specified, after the same manner as the honourable ordinaries.

See examples of subordinaries, &c. fig. xii.

1. "Gules, an Orle Ermine;" borne by the name of *Humframville*.

2. "Argent, three Inescutcheons Gules;" borne by the name of Hay, and the 2d and 3d quarters in the coat-of-arms of the right hon. Thomas Hay, earl of Kinnoul, &c.—The first of the name of Hay that bore these arms, got them, as Mr Nisbet observes, because he and his two sons, after having defeated a party of the Danes at the battle of Loncarty, anno 942; were brought to the king with their shields all stained with blood.

3. "Argent, a Fret Sable;" borne by the right hon. Lionel Talmish, earl of Dysart, &c. This family was advanced to the peerage by King Charles I. in 1646.

4. "Or, fretty of Gules, a Canton Ermine;" borne by the right hon. Henry Noel, earl of Gainsborough, &c. This nobleman is descended from — Noel, who came into England with William the Conqueror, and, in consideration of his services, obtained a grant of several manors and lands of very great value. Sir Edward, who was knighted by King James on his accession to the throne, and created a baronet June 29. 1611, was the first advanced to the honour of baron Noel, March 23. 1616.

5. "Girony of eight Pieces Or and Sable;" the 1st and 4th quarters of the coat-of-arms of the right hon. John Campbell, earl of Breadalbane, &c. This ancient and noble family is descended, in a regular succession, from Duncan the first Lord Campbell, ancestor of the family of Argyll. John, the first earl, in consideration of his personal merit, was, from a baronet, created lord Campbell, viscount Glenorchie, and earl of Breadalbane, Jan. 28. 1677, by Charles II.

6. "Lozengy Argent and Gules;" borne by the right hon. George Fitz-William, earl Fitz-William, &c. This noble earl is descended from Sir William Fitz-William,

Sub-Ordinaries.

Plate
CCXXX

Sub-
Ordinaries.

Fitz-William, marshal of the army of William the Conqueror at the battle of Hastings in Suffex, by which victory that prince made his way to the throne.

7. "Sable, a Mascle within a Tressure flowery Argent;" borne by the name of *Hoblethorne*.

8. "Gules, three Mullets Or, within a Bordure of the latter, charged with a double Tressure flowery and counter-flowery with Fleurs-de-lis of the first;" borne by the noble family of Sutherland, &c. This family, in the peerage, is among the oldest in Britain, if not in all Europe; the title of *earl* being conferred on one of their ancestors in 1067.

9. "Azure, a Pile Ermine," for the name of *Wyche*; and is quartered as first and fourth in the coat-of-arms of Sir Cyril Wyche, bart.

10. "Or, on a Pile engrailed Azure, three Cross-crosetts fitchy of the first;" borne by the name of *Rigdon*.

11. "Or, on a Pile Gules three Lions of England between six Fleurs-de-lis Azure;" the first and fourth quarters of his grace Edward Seymour, duke of Somerset, &c. granted him by King Henry VIII. on his marriage with the lady Jane Seymour.

12. "Ermine, two Piles issuing from the dexter and sinister sides, and meeting in base Sable;" for the name of *Holles*.

13. "Argent, three piles, one issuing from the Chief between the others reversed, Sable;" for the name of *Hulse*, and borne by Sir Edward Hulse, bart.

14. "Azure, a Pile wavy bendways Or;" borne by the name of *Aldham*.—There is no mention made of its issuing out of the dexter-corner of the escutcheon, for this is sufficiently determined by the term *bendways*.

15. "Or, three Piles in Bend, each point ensigned with a Fleur-de-lis Sable;" borne by the name of *Norton*.

16. "Argent, three Piles meeting near the point of the Base Azure;" borne by the name of *Bryan*.

17. "Party per Pale and per Bend Or and Azure counterchanged;" borne by the name of *Johnson*.—This bearing is equal to two gyrons; see p. 454. col. 1.

18. "Party per Pale and per Cheveron Argent and Gules counterchanged."

19. "Party per Pale chappé Or and Vert counterchanged." This is a bearing seldom to be met with.

20. "Party per Fefs Gules and Argent, a Pale counterchanged;" borne by the name of *Lavider*.

SECT. III. Of COMMON CHARGES born in Coats-of-arms.

It has been already observed, that in all ages men have made use of the representation of living creatures, and other symbolical signs, to distinguish themselves in war; and that these marks, which were promiscuously used for hieroglyphics, emblems, and personal devices, gave the first notion of heraldry. But nothing shows the extent of human wit more, than the great variety of these marks of distinction, since they are composed of all sorts of figures, some natural, others artificial, and many chimerical; in allusion, it is to be supposed, to the state, quality, or inclination of the bearer.

Nº 152.

Hence it is, that the sun, moon, stars, comets, meteors, &c. have been introduced to denote glory, grandeur, power, &c. Lions, leopards, tygers, serpents, stags, &c. have been employed to signify courage, strength, prudence, swiftness, &c.

The application to certain exercises, such as war, hunting, music, &c. has furnished lances, swords, pikes, arms, fiddles, &c. Architecture, columns, cheverons, &c.; and the other arts several things that relate to them.

Human bodies, or distinct parts of them, also clothes, and ornaments, have, for some particular intention, found place in armory; trees, plants, fruits, and flowers, have likewise been admitted to denote the rarities, advantages, and singularities, of different countries.

The relation of some creatures, figures, &c. to particular names, has been likewise a very fruitful source of variety in arms. Thus the family of Coningsby bears three coney; of Arundel, six swallows; of Urson, a bear; of Lucie, three pikes, in Latin *tres lucios pisces*; of Starkey, a stork; of Castleman, a castle triple-towered; of Shuttleworth, three weaver's shuttles, &c.

Besides these natural and artificial figures, there are chimerical or imaginary ones used in heraldry, the result of fancy and caprice; such as centaurs, hydras, phenixes, griffons, dragons, &c. Which great variety of figures shows the impossibility of comprehending all common charges in a work of this nature; therefore such only shall be treated of as are most frequently borne in coats-of-arms.

ART. I. Of NATURAL FIGURES borne in coats-of-arms.

AMONG the multitude of natural things which are used in coats-of-arms, those most usually borne are, for the sake of brevity as well as perspicuity, distributed into the following classes, viz.

Celestial figures; as, the sun, moon, stars, &c. and their parts.

Effigies of men, women, &c. and their parts.

Beasts; as, lions, stags, foxes, boars, &c. and their parts.

Birds; as, eagles, swans, storks, pelicans, &c. and their parts.

Fishes; as dolphins, whales, sturgeons, trouts, &c. and their parts.

Reptiles and insects; as, tortoises, serpents, grasshoppers, &c. and their parts.

Vegetables; as, trees, plants, flowers, herbs, &c. and their parts.

Stones; as, diamonds, rubies, pebbles, rocks, &c.

These charges have, as well as ordinaries, divers attributes or epithets, which express their qualities, positions, and dispositions. Thus the sun is said to be *in his glory*, *eclipsed*, &c. The moon, *in her complement*, *increfcent*, &c. Animals are said to be *rampant*, *passant*, &c. Birds have also their denominations, such as *close*, *displayed*, &c. Fishes are described to be *hauriant*, *navant*, &c.

I. Examples of Celestial Figures.

1. "Azure, a Sun in his Glory;" borne by the name of *St Clare*; and is found in the first and fourth quarters

Natural
Figures.Plate
CCXXX.
fig. 13.

Fig. 11.
SAL TIERS.

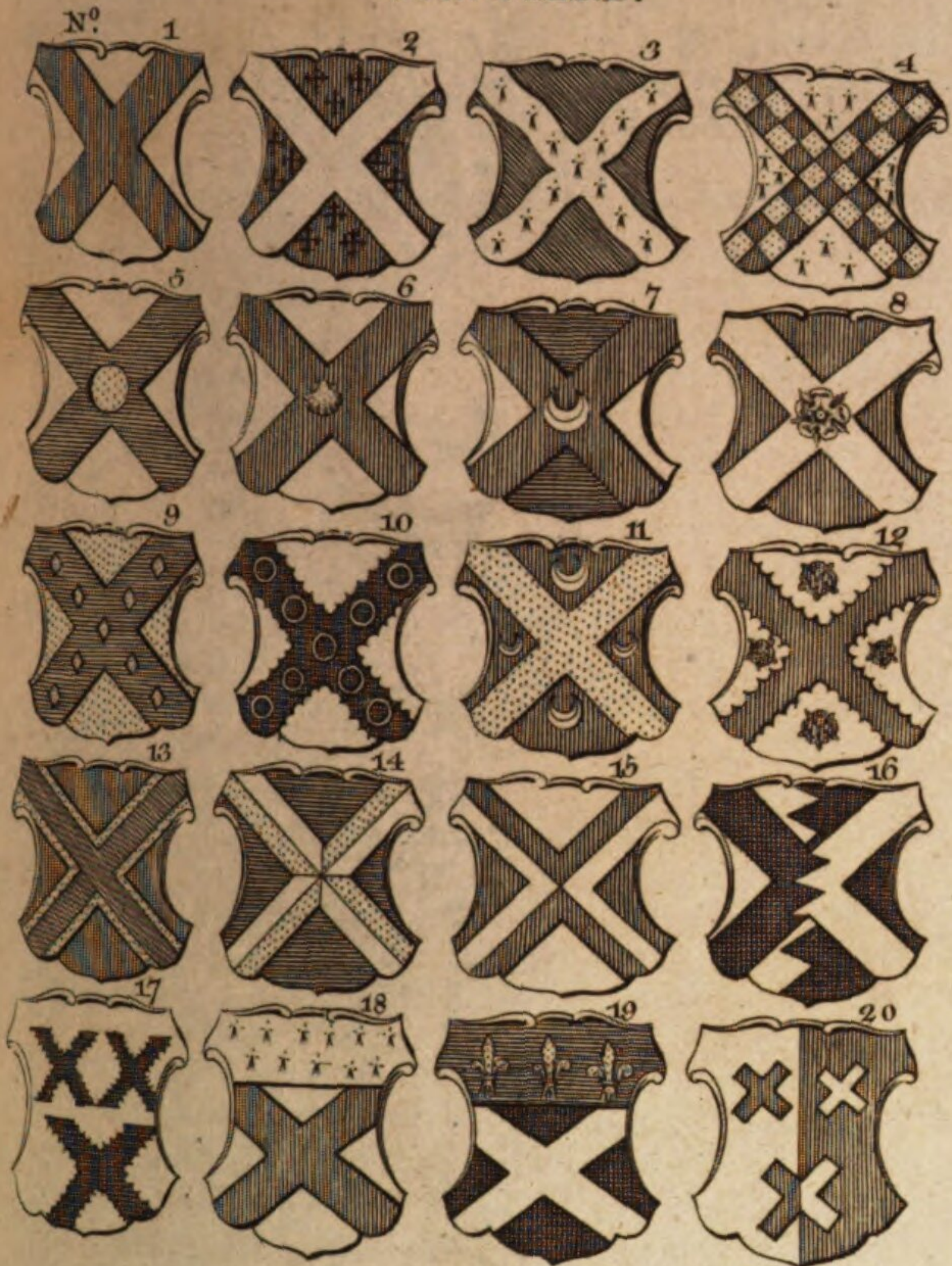


Fig. 12.
ORDINARYS &C.

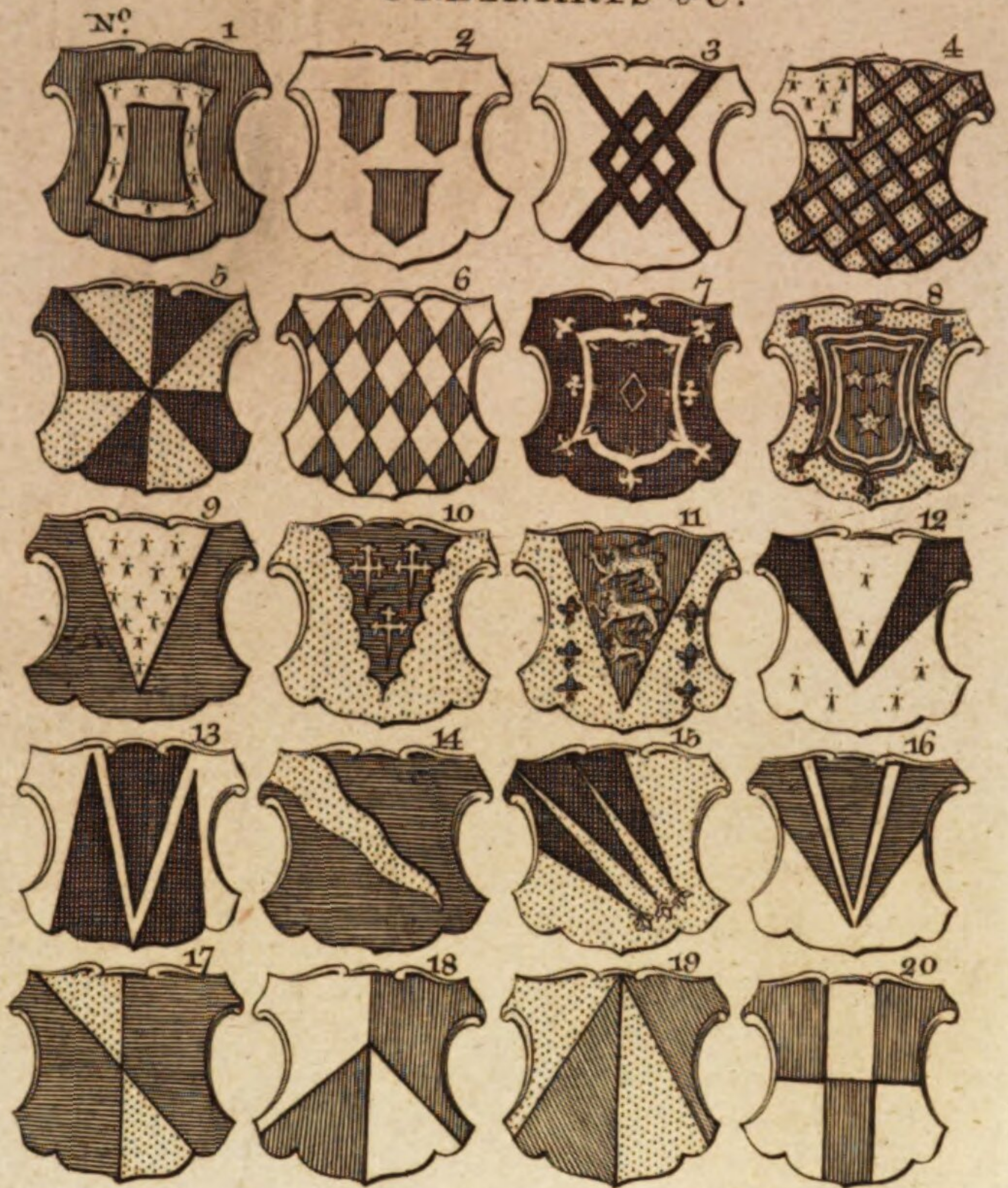


Fig. 13.
CELESTIALS.

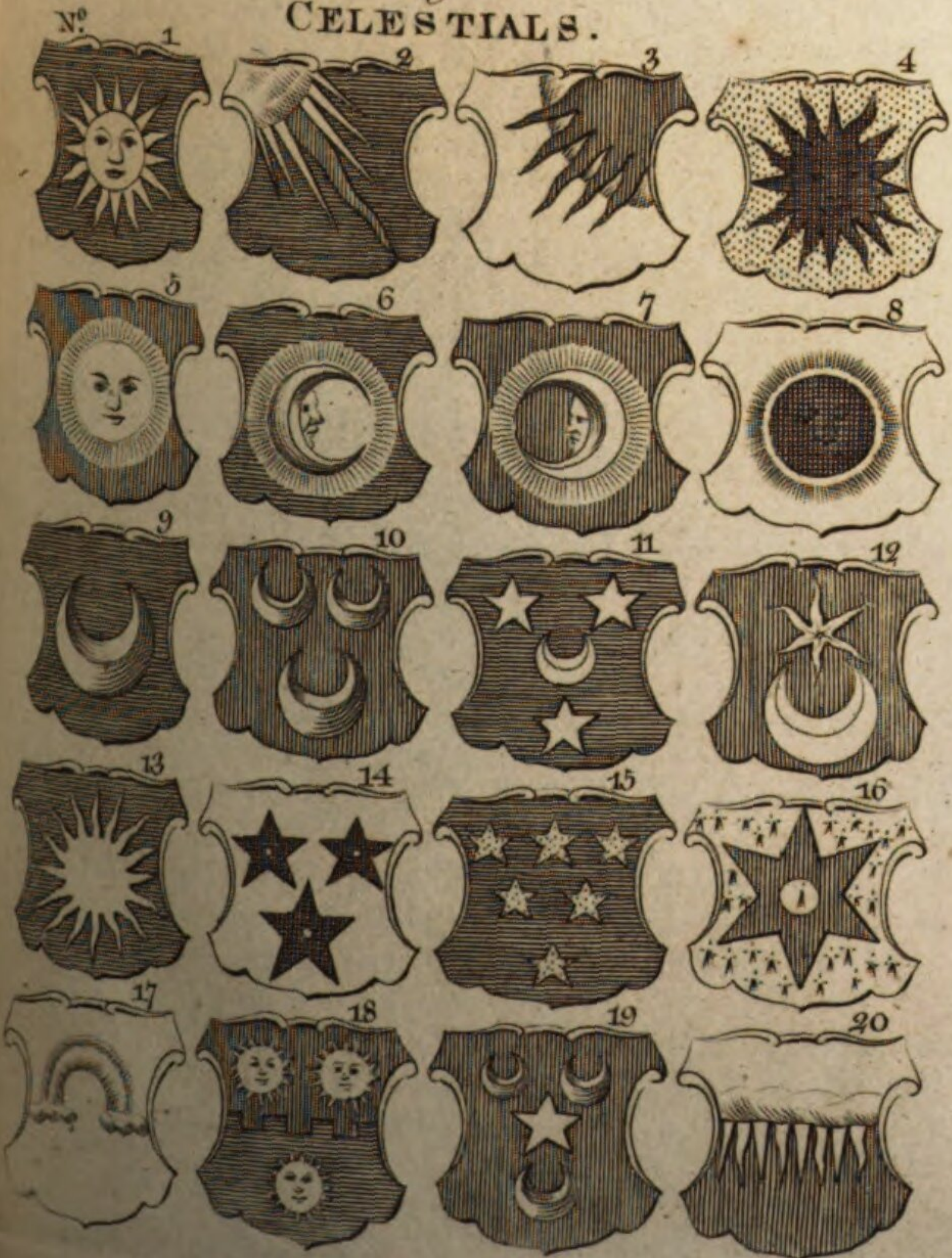
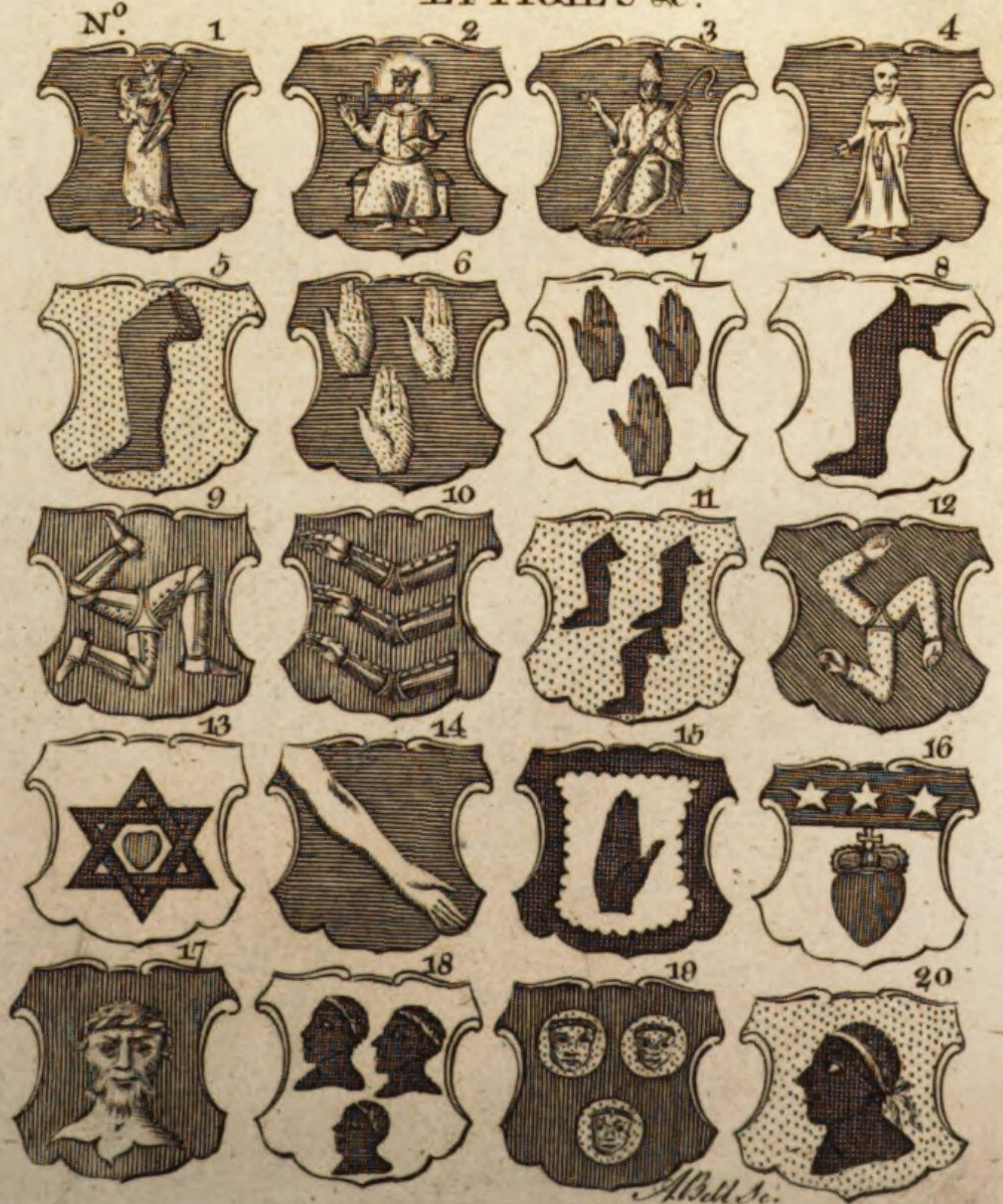


Fig. 14.
EFFIGIES &C.



Alb. J. C.

quarters of the coat-of-arms of the most noble William-John Ker, marquis of Lothian, &c. It is needless to express the colour of the sun, nothing being capable to denote it but gold.

2. "Azure, one Ray of the Sun, bendways Gules, between six Beams of that Luminary Argent;" borne by the name of *Aldam*. There is no mention made of their issuing out of the dexter-corner of the escutcheon; for this is implied in the term *bendways*, for the reason mentioned before.

3. "Argent, five Rays of the Sun issuing out of the sinister-corner Gules;" borne by the name of *Mudtshideler*, a family of distinction in Franconia.

4. "Or, a Sun eclipsed." This bearing is seldom to be met with, except in emblematic or hieroglyphic figures; and might be expressed *Sable*, because that hue is accidental and not natural.

5. "Gules, the Moon in her complement Or, illustrated with all her light proper." This is sufficient without naming the colour, which is *Argent*.

6. "Azure, a Moon decreescent proper;" borne by the name of *Delaluna*.

7. "Gules, a Moon increescent Or;" borne by the name of *Descus*.

8. "Argent, a Moon in her detriment, Sable." This word is used in heraldry to denote her being eclipsed.

9. "Azure, a Crescent Argent;" borne by the name of *Lucy*. This bearing is also used as a difference, it being assigned to the second son, as before-mentioned.

10. "Gules, three Crescents Argent;" borne by Oliphant, lord Oliphant (at present dormant). Amongst the ancestors of this noble family was David de Oliphant, one of those barons who, in 1142, accompanied King David I. into England with an army, to assist his niece Matilda against King Stephen; but after raising the siege of Winchester, the said King David was so closely pursued, that, had it not been for the singular conduct of this brave person, the king would have been taken prisoner.

11. "Azure, a Crescent between three Mullets Argent;" borne by Arbuthnot, viscount and baron Arbuthnot. In the year 1105, the first of this family marrying a daughter of the family of Oliphant, sheriff of the county of Kincardin, with her he had the lands of Arbuthnot in that county, from whence he took his surname. Robert Arbuthnot was the first of this family who, for his loyalty to King Charles I. was, Nov. 16. 1641, dignified with the title of *baron and viscount Arbuthnot*.

12. "Gules, a Star issuing from between the Horns of a Crescent Argent."

13. "Azure, a Star of 16 points Argent;" borne by the name of *Huitson*.

14. "Argent, three Mullets pierced Sable;" borne by the name of *Wollaston*.

15. "Azure, six Mullets 3, 2, 1, Or;" borne by the name of *Wells*.

16. "Ermine, a Mullet of six points Gules, pierced;" borne by the name of *Heffenhal*.—When a mullet has more than five points, their number must, in blazoning, be always named.

17. "Argent, a Rainbow with a Cloud at each end proper." This is part of the crest to the earl of

Hopeton's coat-of-arms, which is inserted in fig. ix. n° 13. The whole of it is a globe split on the top, and above it is the rainbow, &c.

18. "Party per Fefs crenelle Gules and Azure, three Suns proper;" borne by the name of *Pierfon*.

19. "Gules, a Mullet between three Crescents Argent;" borne by the name of *Oliver*.

20. "Gules, a Chief Argent, on the lower part thereof a Cloud, the Sun's resplendent rays issuing throughout proper;" borne by the name of *Leeson*.

II. Examples of Effigies of Men, &c. and their parts.

1. "Azure, the Virgin Mary crowned, with her Babe in her right arm and a sceptre in her left, all Or;" the coat of arms of the bishopric of Salisbury.

Fig. 14.

2. "Azure, a Presbyter sitting on a Tomb-stone, with a Crown on his head and Glory Or, his right hand extended, and holding in his left an open Book Argent, with a Sword cross his mouth Gules;" the coat of arms of the bishopric of Chichester.

3. "Azure, a Bishop habited in his pontificals, sitting on a chair of state, and leaning on the sinister side thereof, holding in his left hand a Crosier, his right being extended towards the dexter chief of the escutcheon, all Or, and resting his feet on a cushion, Gules, tasseled of the second;" the coat of arms of the bishopric of Clogher in Ireland.

4. "Azure, a Bishop habited in his pontificals, holding before him, in a Pale, a Crucifix proper;" the coat of arms of the bishopric of Waterford in Ireland.

5. "Or, a Man's Leg couped at the midst of the thigh Azure;" borne by the name of *Haddon*.

6. "Azure, three sinister Hands couped at the wrist, and erected Argent;" borne by the ancient family of *Malmains*.

7. "Argent, three sinister Hands couped at the wrist, and erected Gules;" borne by the name of *Maynard*.—By these two last examples it appears, that different coats of arms may be easily made from the same figure or figures, by varying the colours only, without the addition of any other charge, counter-changings, partings, &c.

8. "Argent, a Man's Leg erased at the midst of the thigh Sable;" borne by the name of *Prime*.

9. "Gules, three Legs armed proper, conjoined in the Fefs-point at the upper part of the thighs, flexed in triangle, garnished and spurred, Or." This is the coat of arms of the Isle of Man; and is quartered by the most noble John Murray, duke of Athol, titular lord or king of that isle.

10. "Gules, three dexter Arms vambraced fessways in Pale proper;" borne by the name of *Armstrong*. This coat is very well adapted to the bearer's name, and serves to denote a man of excellent conduct and valour.

11. "Or, three Legs couped above the knee Sable;" borne by the name of *Hofy*.

12. "Vert, three dexter Arms conjoined at the shoulders in the Fefs-point, and flexed in triangle Or, with fists clenched Argent;" borne by the name of *Tremain*.

13. "Argent, a Man's Heart Gules, within two equilateral triangles interlaced Sable;" borne by the name of *Villages*, a family of distinction in Provence.

14. "Azure, a sinister Arm, issuing out of the

Positions of
Lions. Argent."

15. "Argent, a dexter Hand couped at the wrist and erected, within a bordure engrailed Sable;" borne by the name of *Manley*.

16. "Argent, a Man's Heart Gules, ensigned with a Crown Or, and on a Chief Azure, three Mullets of the first." The paternal coat of the name of *Douglas*, and quartered in the arms of the dukes of Hamilton and Queensberry; as also in those of the earls of Morton and March, and the lord Mordington.

17. "Gules, a Saracen's Head affrontée erased at the neck Argent, environed about the temples with a wreath of the second and Sable;" borne by the name of *Mergith*.

18. "Argent, three Blackamoors Heads couped proper, banded about the head Argent and Gules;" borne by the name of *Tanner*.

19. "Gules, three Befants, each charged with a man's face affrontée proper;" borne by the name of *Gamin*.

20. "Or, a Blackamoor's Head couped proper, banded about the head Argent;" borne by the name of *Ufloc*.

Observe, that when half of the face, or little more, of human figures, is seen in a field, it is then said to be *in profile*; and when the head of a man, woman, or other animal, is represented with a full face, then it is termed *affrontée*.

III. Examples of the different Positions of Lions, &c. in Coats-of-Arms.

Plate
CCXXXI.
fig. 15.

1. "Or, a Lion rampant Gules;" quartered by Percy, duke of Northumberland, &c.

2. "Azure, a Lion rampant-guardant Or;" borne by the name of *Fitz-Hammond*.

3. "Gules, a Lion rampant-reguardant Or;" quartered by Cadogan, lord Cadogan, &c.

4. "Ermine, a Lion saliant Gules;" borne by the name of *Worley*.

5. "Azure, a Lion statant-guardant Or;" borne by the name of *Bromfield*.

6. "Or, a Lion passant Gules;" borne by the name of *Games*.

7. "Argent, a Lion passant-guardant Gules, crowned Or;" quartered by the right hon. James Ogilvy, earl of Findlater, &c.

8. "Gules, a Lion sejant Argent."

9. "Or, a Lion rampant double-headed Azure;" borne by the name of *Mason*.

10. "Sable, two Lions rampant-combatant Or, armed and langued Gules;" borne by the name of *Carter*.

11. "Azure, two Lions rampant-adossée Or." This coat of arms is said to have been borne by Achilles at the siege of Troy.

12. "Sable, two Lioncels counter-passant Argent, the uppermost towards the sinister side of the escutcheon, both collared Gules;" borne by the name of *Glegg*.—It is the natural disposition of the Lion not to bear a rival in the field: therefore two lions cannot be borne in one coat of arms, but must be supposed to be lion's whelps, called *lioncels*; except when they are parted by an ordinary, as in fig. viii. n° 17. or so disposed as that they seem to be distinctly separated from each other, as in fig. xv. n° 20. In the two foregoing

examples they are called *lions*, because in the 10th they seem to be striving for the sovereignty of the field, which they would not do unless they were of full growth: and in the 11th they are supposed to represent two valiant men, whose dispute being accommodated by the prince, are leaving the field, their pride not suffering them to go both one way.

13. "Argent, a Demi-lion rampant Sable;" borne by the name of *Mervin*.

14. "Gules, a Lion couchant between six Cross-crosets, three in Chief, and as many in Base, Argent;" for the name of *Tynte*; and is the first and fourth quarter of the arms of Sir Charles-Kemys Tynte, bart.

15. "Azure, a Lion dormant Or."

16. "Or, out of the midst of a Fess Sable, a Lion rampant-naissant Gules;" borne by the name of *Emme*. This form of blazon is peculiar to all living things that shall be found issuing out of the midst of some ordinary or other charge.

17. "Azure, three Lioncels rampant Or;" borne by Fienes, viscount and baron Saye and Sele.

18. "Gules, a tricorporated Lion issuing from three parts of the Escutcheon, all meeting under one Head in the Fess-point Or, langued and armed Azure;" borne by the name of *Crouchback*. This coat appertained to Edmund Crouchback earl of Lancaster, in the reign of his brother king Edward I.

19. "Gules, a besant between three Demi-lions rampant Argent;" borne by Bennet, earl of Tankerville, &c. This noble earl is descended from the family of the Bennets in Berkshire, who flourished in the reign of king Edward III. Charles, lord Offulston, grandfather of the present earl, was created earl of Tankerville on October 19. 1714, by George I.

20. "Party per Pale Azure and Gules, three Lions rampant Argent;" borne by Herbert earl of Pembroke, &c. This noble family is descended from Henry Fitz-Roy, natural son to Henry I. Sir William Herbert, one of the ancestors of the present earl, was master of the horse to king Henry VIII. lord president of the marches of Wales, and knight of the garter. He was also, by that king, advanced to the dignity of baron Herbert of Caerdiff, Oct. 10. 1551, and the very next day created earl of Pembroke.—Observe, that if a lion, or any other beast, is represented with its limbs and body separated, so that they remain upon the field at a small distance from their natural places, it is then termed *Dehaché* or *couped in all its parts*; of which very remarkable bearing there is an instance in armory, which is, "Or, a Lion rampant Gules, dehaché, or couped in all its parts, within a double Tressure flowery and counter-flowery of the second;" borne by the name of *Maitland*.

IV. Examples of other Quadrupeds, and their Parts, borne in Coats-of-Arms.

1. "Sable, a Camel statant Argent;" borne by the name of *Camel*.

2. "Gules, an Elephant statant Argent, tusked Or."

3. "Argent, a Boar statant Gules, armed Or;" borne by the name of *Treswarthen*.

4. "Sable, a Bull passant Or;" borne by the name of *Fitz-Geffrey*.

5. "Sable, three Nags Heads erased Argent;" borne

Fig. 16.

Different
Animals.

borne by Blayney, baron Blayney of Monaghan, in Ireland. This noble family is descended in a direct line from Cadwallader, a younger son of the prince of Wales; and the first peer was Sir Edward Blayney, knight, who was created a baron by king James I. July 29. 1621.

6. "Argent, three Boars Heads erased and erect Sable, langued Gules," for the name of *Booth*.

7. "Azure, three Boars Heads erased Or;" quartered by his grace Alexander Gordon duke of Gordon, &c. Of this great and noble family, which took their surname from the barony of Gordon in the county of Berwick, there have been, besides those in North Britain, several of great distinction in Muscovy; and in the time of king Malcolm IV. 1160, this family was very numerous, and flourished in the county aforesaid.

8. "Argent, three Bulls Heads erased, Sable, armed Or;" borne by Skeffington, earl of Massareene, &c. of Ireland. This ancient and noble family derives its name from the village of Skeffington, in the county of Leicester, of which place Simon Skeffington was lord in the reign of Edward I. and from him descended Sir William Skeffington, knt. made so by king Henry VII.

9. "Argent, two Foxes counter-saliant, the dexter surmounted of the sinister Gules;" for the name of *Kadrod-Hard*, an ancient British family, from which is descended Sir Wynne, bart. who bears this quartered, second and third, in his coat of arms.

10. "Argent, three Bulls passant Sable, armed and unguled Or;" for Ashley, and quartered by the right hon. Anthony-Ashley Cooper, earl of Shaftesbury, &c. This noble earl is descended from Richard Cooper, who flourished in the reign of king Henry VIII. and purchased the manor of Paulet in the county of Somerset, of which the family are still proprietors. But his ancestor who makes the greatest figure in history is Sir Anthony-Ashley Cooper, who was created baron Ashley of Winbourn April 20. 1661, and afterwards earl of Shaftesbury April 23. 1672.

11. "Ermine, three Cats passant in Pale Argent;" for the name of *Adams*.

12. "Gules, two Greyhounds rampant Or, respecting each other;" borne by the name of *Dogget*.

13. "Or, an Afs's Head erased Sable;" borne by the name of *Hackwell*.

14. "Gules, three Lions gambes erased Argent;" for the name of *Newdigate*.

15. "Argent, three Lions Tails erected and erased Gules;" borne by the name of *Cork*.

16. "Azure, a Buck's Head cabossed Argent;" borne by Legge, earl of Dartmouth, &c. This noble family is descended from Signior de Lega, an Italian nobleman, who flourished in Italy in the year 1297. What time the family came into England is uncertain; but it appears they were settled at Legge place, near Tunbridge in Kent, for many generations; and Thomas, one of their ancestors, was twice lord-mayor of London, viz. in 1346 and 1353.

17. "Argent, two Squirrels sejant adossée Gules," for the name of *Samwell*.

18. "Gules, a Goat passant Argent;" borne by the name of *Baker*.

19. "Sable, a Stag standing at gaze Argent;" borne by the name of *Jones*, of Monmouthshire.

20. "Azure, three Holy Lambs Or;" borne by the name of *Row*.

Birds,
Fishes, &c.V. *Examples of Birds, Fishes, Reptiles, &c.*

1. "Ermine, an Eagle displayed Sable;" borne by the name of *Beddingfield*. Fig. 17.

2. "Gules, a Swan close proper;" borne by the name of *Leigham*.

3. "Argent, a Stork Sable, membered Gules;" borne by the name of *Starkey*.

4. "Gules, a Pelican in her nest with wings elevated, feeding her young ones Or; vulned proper;" borne by the name of *Carne*.

5. "Argent, three Peacocks in their pride proper;" borne by the name of *Parwe*.

6. "Sable, a Goshawk Argent, perching upon a stock in the Base-point of the Escutcheon of the second, armed, jessed, and belled Or;" borne by the name of *Weele*.

7. "Or, a Raven proper;" borne by the name of *Corbet*.

8. "Argent, three Cocks Gules, crested and jow- lopped Sable, a Crescent surmounted of a Crescent for difference;" borne by Cockayne, viscount Cullen, of Donegal in Ireland. Of this ancient family was Andreas Cockayne of Ashburne in the county of Derby, who lived in the 28th year of Edward I. Charles, son to Sir William Cockayne lord-mayor of London, 1619, was the first who was advanced to the peerage, by Charles I. August 11. 1642.

9. "Sable, a Dolphin naiant embowed Or;" borne by the name of *Symonds*. This animal is borne by the eldest son of the French king, and next heir to the crown, no other subject in that kingdom being permitted to bear it. In England, where that rule cannot take place, there are several families that have dolphins in their coats-of-arms.

10. "Argent, three Whales Heads erect and erased Sable;" borne by the name of *Whalley*.

11. "Gules, three Escallops Argent;" borne by Keppel, earl of Albemarle, &c. This family is descended from Arnold Joost van Keppel, a nobleman of the province of Gelderland in Holland, who came over into England with the prince of Orange in 1688, to whom he was then a page of honour, and afterwards master of the robes, and was by him created a peer of England, by the title of earl of Albemarle, in the duchy of Normandy in France, February 10. 1696.

12. "Azure, three Trouts fretted in Triangle Argent;" borne by the name of *Troutbeck*.

13. "Vert, a Grasshopper passant Or."

14. "Azure, three Bees two and one volant in pale Argent;" borne by the name of *Bye*.

15. "Vert, a Tortoise passant Argent;" borne by the name of *Gawdy*.

16. "Gules, an Adder nowed Or;" borne by the name of *Nathiley*. Adders, snakes, and serpents are said to represent many things, which being according to the fancy of the ancients, and a few modern authors who have adopted their opinions, it is needless to enlarge upon. It is certain they often occur in armory; but the noblest is that of the duchy of Milan, viz. "Argent, a Serpent gliding in Pale Azure, crowned Or, vorant an Infant issuing Gules." The occasion of this bearing was this: Otho, first viscount of Milan,

Reptiles,
Plants, &c.

going to the Holy Land with Godfrey of Bouillon, defeated and slew in single combat the great giant Volux, a man of an extraordinary stature and strength, who had challenged the bravest of the Christian army. The viscount having killed him, took his armour, and among it his helmet, the crest whereof was a serpent swallowing an infant, worn by him to strike terror into those who should be so bold as to engage him.

17. "Ermine, a Rose Gules barbed and seeded proper;" borne by Boscawen viscount Falmouth, &c. This noble lord is descended from Richard Boscawen, of the town of Boscawen, in the county of Cornwall, who flourished in the reign of king Edward VI. Hugh, the first peer of this ancient family, was created baron of Boscawen-Rose, and viscount Falmouth, on the 13th of June 1720, 6th of George I.

18. "Azure, three Laurel-leaves slipped Or;" borne by the name of *Leveson*, and quartered by the right hon. Granville-Leveson Gower, earl of Gower, &c.

19. "Azure, three Garbs Or;" borne by the name of *Cuming*. These are sheaves of wheat; but though they were barley, rye, or any other corn whatsoever, it is sufficient, in blazoning, to call them *Garbs*, telling the tincture they are of.

20. "Gules, three Cinquefoils Argent;" borne by Lambart, baron of Cavan, &c. in Ireland. Of this ancient family, which is of French extraction, was Sir Oliver, who, in the reign of queen Elizabeth, attending the earl of Essex to Spain, was there knighted by him, and afterwards returning with that earl into Ireland, was, for his singular service in the north against O'Neal earl of Tyrone, made camp-master general, and president of Connaught; and February 17. 1617, was created lord Lambart and baron of Cavan by king James I.

It must be observed, that trees and plants are sometimes said to be trunked, eradicated, fructuated, or raguled, according as they are represented in arms.

ART. 2. OF ARTIFICIAL FIGURES, borne in Coats of Arms.

AFTER the various productions of nature, artificial figures, the objects of arts and mechanics, claim the next rank. They may be distributed into the following classes, viz.

Warlike instruments; as swords, arrows, battering-rams, gauntlets, helmets, spears, pole-axes, &c.

Ornaments used in royal and religious ceremonies; as crowns, coronets, mitres, wreaths, croziers, &c.

Architecture; as towers, castles, arches, columns, plummets, battlements, churches, portcullisses, &c.

Navigation; as ships, anchors, rudders, pendants, sails, oars, masts, flags, galleys, lighters, &c.

All these bearings have different epithets, serving either to express their position, disposition, or make: viz. swords are said to be erect, pommeled, hilted, &c.; arrows, armed, feathered, &c.; towers, covered, embattled, &c.; and so on of all others, as will appear by the following examples.

Fig. 18. 1. "Sable, three Swords, their points meeting in the Base Argent, pommeled and hilted Or, a Crescent in chief of the second for difference;" borne by Powlet, duke of Bolton, &c. This noble duke is descended from Hercules, lord of Tournon in Picardy, who came over to England with Jeffrey Plantagenet earl of Anjou, third son of king Henry II. and among other lands had the

lordship of Paulet in Somersetshire conferred on him. William Powlet, the first peer of this illustrious and loyal family, was treasurer of the household to king Henry VIII. and by him created baron St John of Basing, in the county of Southampton, March 9. 1538.

2. "Argent, three Battering-rams barways in Pale, headed Azure and hooped Or, an Annulet for difference;" borne by Bertie, earl of Abington, &c. The first of the family of Bertie that bore the title of earl of Abington was James Bertie lord Norris of Rycote, being created earl, November 30. 1682, by Charles II.

3. "Azure, three left-hand Gauntlets with their backs forward Or;" borne by Fane, earl of Westmoreland, &c. This noble earl is descended from the Fanes, an ancient family which resided at Badsal in Kent, from which descended Francis Fane, son and heir of Sir Thomas Fane, knight, by Mary his wife, sole daughter and heiress to Henry Nevil lord Abergavenny, afterwards created baroness Despenfer. The said Francis was a knight of the bath; and in the reign of king James I. was created baron Burghersh and earl of Westmoreland December 29. 1624.

4. "Azure, three Arrows their points in base Or;" borne by Archer, lord Archer, &c. This noble lord is descended from John de Archer, who came over from Normandy with William the Conqueror; and this family is one of the most ancient in Warwickshire, being settled at Umberlade in that county ever since the reign of Henry II. His lordship is the first peer; and was created lord Archer and baron of Umberlade by king George II. July 14. 1747.

5. "Gules, two Helmets in chief proper, garnished Or, in a Base of a Garb of the third;" borne by Cholmondeley, earl of Cholmondeley, &c. This noble earl is descended from the ancient family of Egerton in Cheshire, which flourished in the time of the conquest, from whom also the duke of Bridgewater is descended. The first English peer of this branch was Hugh viscount Cholmondeley of Kells, in Ireland, who, joining with those who opposed the arbitrary measures of king James II. was on the accession of king William and queen Mary created lord Cholmondeley of Namptwich, in the county of Chester.

6. "Argent, a Ship with its Sails furled up Sable;" quartered by Hamilton, earl of Abercorn, &c. The descent of this noble family is from that of the duke of Hamilton: for James, the fourth lord Hamilton and second earl of Arran, marrying lady Margaret Douglas daughter of James the third earl of Morton, by her had four sons, James, John, Claud, and David; whereof Claud was progenitor of the lord we are now speaking of; and in consideration of his merit and loyalty to Mary queen of Scots, James VI. created him lord Paisley in 1591, as also earl of Abercorn, baron of Hamilton, &c. July 10. 1606.

7. "Or, an Anchor in pale Gules;" quartered by the most noble George Johnston, marquis of Annandale, &c. The Johnstons are an ancient and warlike family, and derive their surname from the barony of Johnston in Annandale.

8. "Sable, three Spears heads erect Argent, imbrued Gules, on a chief Or, as many Pole-axes Azure;" borne by King, lord King, &c. Peter King, Esq; the first lord of this ancient family, was chosen recorder of the city of London, July 27. 1708, and on the 12th of September

Artificial
Figures.

Fig. 15.
LIONS &c.



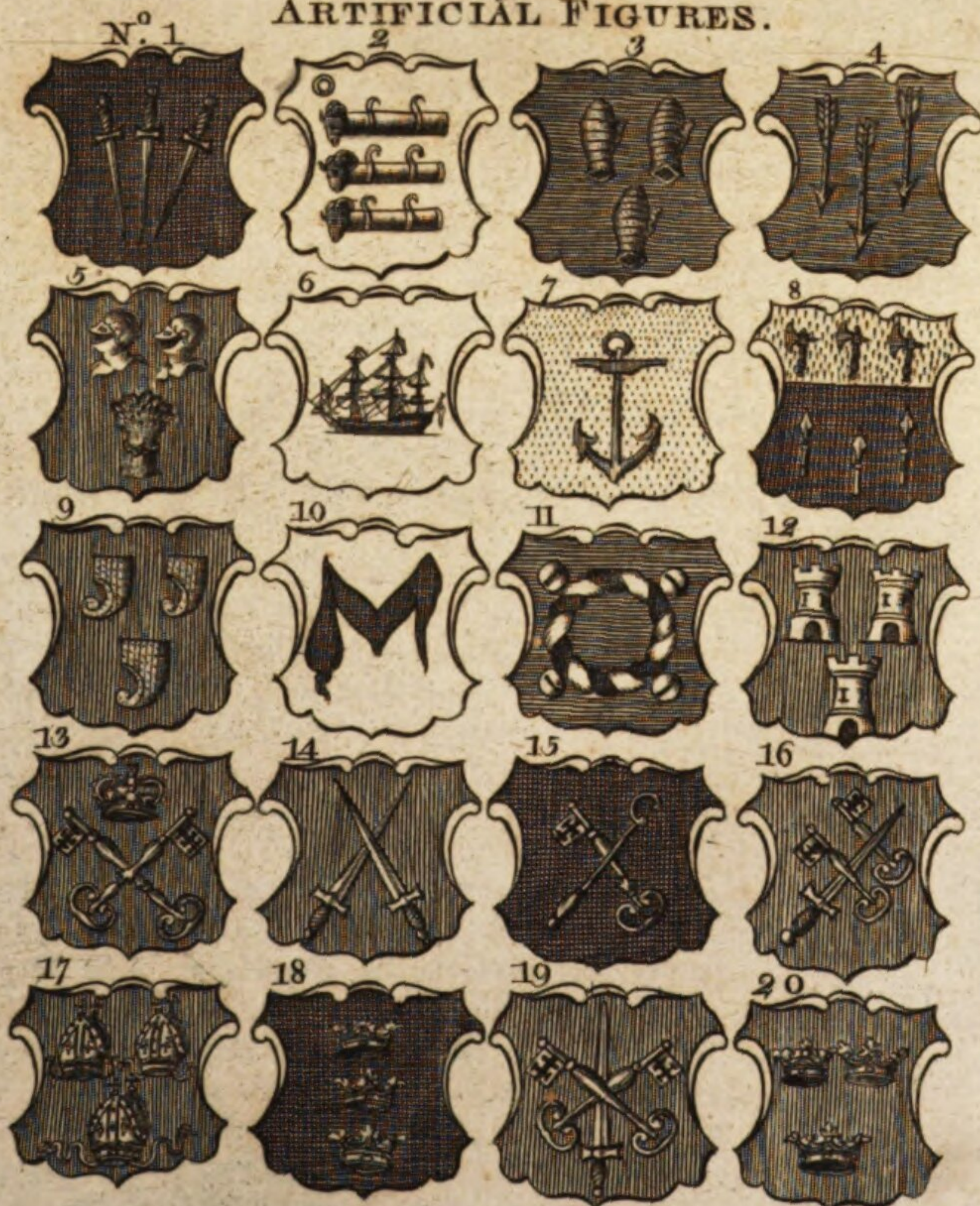
Fig. 16.
ANIMALS &c



Fig. 17.
BIRDS &c.



Fig. 18.
ARTIFICIAL FIGURES.



Abell Prin. Wal. Sculptor. fecit.

Artificial
Figures.Chimerical
Figures.

September following had the honour of knighthood conferred on him. He was constituted lord chief-justice of the common-pleas in the first year of king George I. 1714; on the 5th of April following was sworn of his majesty's most hon. privy council; and on May 19. 1723, was created a peer of this kingdom by the title of lord King, baron of Ockham.

9. "Gules, three Clarions Or;" quartered by Carteret, earl of Granville, &c. This ancient and worthy family derives its pedigree from Offerey de Carteret, who attended William the Conqueror in his descent upon England, and contributed to the victory he obtained over king Harold, at Hastings in Suffex, 1066, he had manors and lands in England conferred on him by that prince, as a reward for his eminent services. George the first earl was, in consideration of his own merit and the services of his ancestors, created a peer of Great Britain, October 19. 1681.

10. "Argent, a Maunch Sable;" borne by Hastings, earl of Huntingdon, &c. The present noble earl is descended from Hugh de Hastings, a younger son of the ancient and noble family of the Hastings, earl of Pembroke, of which family was William de Hastings, steward of the household to king Henry I.—William, the first lord Hastings, was created a baron on July 6. 1461, by king Edward IV.

11. "Azure, a circular Wreath Argent and Sable, with four Hawk's Bells joined thereto in quadrature Or;" borne by Jocelyn, viscount Jocelyn, &c. This noble family is of great antiquity; for, after the Romans had been masters of Britain 500 years, wearied with the wars, they took their final farewell of it, and carried away with them a great many of their brave old British soldiers, who had served them in their wars both at home and abroad, to whom they gave Amorica in France, for their former services, which country was from them afterwards called *Little Britain*. It is supposed that there were some of this family amongst them; and that they gave the name of *Jocelyn* to a town in this country, which still preserves that name: and it is thought probable that they returned with William the Conqueror; for we find, in 1066, mention made of Sir Gilbert Jocelyn. This present nobleman, the first lord of the family, was created baron Newport, of Newport in Ireland, on November 29. 1743, and viscount in November 1751.

12. "Gules, three Towers Argent;" quartered by Fowler, viscount Ashbrook, &c. William Fowler, Esq; was advanced to the peerage by king George II. and created baron of Castle-Durrow, in the county of Kilkenney, October 27. 1733; and his son was created viscount Ashbrook, of Ashbrook in Ireland, on Sept. 30. 1751, now extinct.

13. "Gules, two Keys in Saltier Argent, in Chief a Royal Crown proper;" the arms of the archbishopric of York.

14. "Gules, two Swords in Saltier Argent, pommelled and hilted Or;" the arms of the bishopric of London.

15. "Sable, a Key in Bend, surmounted by a Crozier in Bend sinister, both Or;" the arms of the bishopric of St Asaph.

16. "Gules, two Keys adossée in Bend, the uppermost Argent, the other Or, a Sword interposed

between them in Bend-sinister of the second, pommelled and hilted of the third;" the arms of the bishopric of Winchester.

17. "Gules, three Mitres with their pendants Or;" the arms of the bishopric of Chester.

18. "Sable, three Ducal Coronets paleways Or;" the arms of the bishopric of Bristol.

19. "Gules, a Sword erect in pale Argent, pommelled and hilted Or, surmounted by two Keys in Saltier of the last;" the arms of the bishopric of Exeter.

20. "Gules, three Ducal Coronets, Or;" the arms of the bishopric of Ely.

ART. III. OF CHIMERICAL FIGURES.

THE last and the oddest kind of bearings in coats of arms, is comprehended under the name of *chimerical figures*; that is to say, such as have no real existence, but are mere fabulous and fantastical inventions. These charges, griffons, martlets, and unicorns excepted, are so uncommon in British coats, that in order to make up the same number of examples hitherto contained in each collection, several foreign bearings are introduced here; which, however, as they are conform to the laws of heraldry, will also contribute both to entertain and instruct the reader. Those most in use are the following, viz.

Angels, Cherubims, Tritons, Centaurs, Martlets, Griffons, Unicorns, Dragons, Mermaids, Satyrs, Wiverns, Harpies, Cockatrices, Phenixes.

These, like the foregoing charges, are subject to various positions and dispositions, which, from the principles already laid down, will be plainly understood. See the examples, fig. xix.

N^o 1. is "Gules, an Angel standing affrontée, with his hands conjoined and elevated upon his breast, habited in a long Robe close girt Argent, his Wings displayed Or;" borne by the name of *Brangor de Cerevisia*, a foreign prelate, who assisted at the council of Constance, 1412. This example is quoted by Guillim, Sect. III. Chap. i.

2. "Sable, a Cheveron between three Cherubim Or;" borne by the name of *Chaloner*, of Yorkshire and Cheshire.

3. "Azure, a Fess indented between three Cherubim Argent." These arms were granted to John Ayde, Esq; of Doddington in Kent, by Sir William Segar, garter.

4. "Gules, a Cherub having three pair of Wings, the uppermost and lowermost counter-crossed Saltierways, and the middlemost displayed Argent;" borne by the name of *Buocafoca*, a foreign prelate. This example is copied from Menestrier's *Methode du Blason*, p. 120, N^o viii.

5. "Azure, a Griffon segreant Or, armed and langued Gules, between three Crescents Argent;" quartered by Bligh, lord Clifton, &c. The ancestor of this noble family, who lived in London, going over to Ireland in the time of Oliver Cromwell, as an agent to the adventurers there, acquired a good estate, and laid the foundation for the grandeur of this family.

6. "Gules, three Martlets Or;" borne by the name of *Macgill*. Guillim observes, that this bird, which is represented without feet, is given for a difference to younger brothers, to put them in mind, that, in order

Chimerical
Figures.

to raise themselves, they are to trust to their wings of virtue and merit, and not to their legs, having but little land to set their feet on.

7. "Azure, three Mulletts Argent within a double Tressure counter-flowery Or, in the centre a Martlet of the last;" borne by Murray, lord Elibank. Sir Gideon Murray, knighted by king James VI. by whom he was made treasurer-depute, was third son of Sir Andrew Murray of Blackbarony. His son Patrick, in respect of his loyalty to Charles I. was on May 16. 1628 made a baronet, and in 1643 created lord Elibank.

8. "Sable, a Cockatrice displayed Argent, crested, membreed, and jowllopped Gules."

9. "Argent, a Mermaid Gules, crined Or, holding in her right hand a Comb, and in her left a Mirror, both proper;" borne by the name of *Ellis*.

10. "Argent, a Wivern, his Wings elevated, and his Tail nowed below him Gules;" borne by the name of *Drakes*.

11. "Or, a Dragon passant Vert."

12. "Gules, a Centaur or Sagittary in full speed regardant proper." This was the coat of arms of Stephen furnamed of *Blois*, son to Adela daughter of William the Conqueror, and of Stephen earl of Blois; and on this descent grounding his pretension to the crown of England, he was proclaimed king in 1135, and reigned to the 25th of October 1154.

13. "Argent, an Unicorn sejant Sable, unguled and horned Or;" borne by the name of *Harling*.

14. "Argent, a Dragon's Head erased Vert, holding in his Mouth a sinister Hand couped at the Wrist Gules;" borne by the name of *Williams*.

15. "Gules, three Unicorns Heads couped Or;" borne by the name of *Paris*.

16. "Argent, a Wivern volant Bendways Sable;" borne by the name of *Raynon*.

17. "Azure, a Lion sejant guardant winged Or, his Head encircled with a Glory, holding in his forepaws an open Book, wherein is written, *Pax tibi, Marce, Evangelista meus*; over the dexter side of the Book a Sword erect, all proper." These are the arms of the republic of Venice.

18. "Azure, a Bull saliant and winged Or;" borne by the name of *Cadenet*, a family of distinction of Provence.

19. "Argent, a Wivern with a human Face affrontée hooded, and winged Vert;" borne by the name of *Busferaghi*, an ancient and noble family of Luques.

20. "Azure, a Harpy displayed, armed, crined, and crowned Or." These are the arms of the city of Noremberg in Germany.

To the forementioned figures may be added the montegre, an imaginary creature, supposed to have the body of a tyger with a satyr's head and horns; also those which have a real existence, but are said to be endowed with extravagant and imaginary qualities, viz. the salamander, beaver, camelion, &c.

C H A P. IV.

Of the EXTERNAL ORNAMENTS of ESCUTCHEONS.

The ornaments that accompany or surround escutcheons were introduced to denote the birth, dignity,

or office, of the persons to whom the coat-of-arms appertaineth; which is practised both among the laity and clergy. Those most in use are of ten sorts, viz. Crowns, Coronets, Mitres, Helmets, Mantlings, Chapeaux, Wreaths, Crests, Scrolls, Supporters.

SECT. I. Of Crowns.

THE first crowns were only diadems, bands, or fillets; afterwards they were composed of branches of divers trees, and then flowers were added to them.

Among the Greeks, the crowns given to those who carried the prize at the Isthmian games, were of pine; at the Olympick, of laurel; and at the Nemean, of smillage.

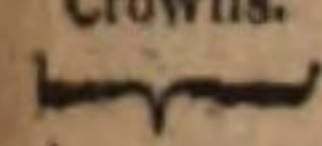
The Romans had various crowns to reward martial exploits and extraordinary services done to the republic; for which see the detached article CROWN in this Dictionary, and Plate CL.

Examples of some of these crowns are frequently met with in modern achievements, viz. 1. The *mural* crown in that of lord Montfort, which was conferred on Sir John Bromley, one of his lordship's ancestors, as an augmentation to his arms, for his great courage at the battle of Le Crobey. Part of the crest of lord Archer is also a mural crown. And there are no less than ten English baronets, whose arms are ornamented with the same crown. 2. The *naval* or rostral crown is still used with coats-of-arms, as may be seen in those of Sir William Burnaby, bart. now admiral of the red squadron, and of John Clerke, Esq; as part of their crests. 3. Of the *castrense* or vallary crown, we have instances in the coat-of-arms of Sir Reginald Graham, and of Isaac Akerman, Esq. 4. The crest of Grice Blackney, Esq; is encompassed with a *civic* crown. 5. The *radiated* crown, according to J. Yorke, was placed over the arms of the kings of England, till the time of Edward III. It is still used as a crest on the arms of some private families; those, for example, borne by the name of *Whitfield*, are ornamented with it. The celestial crown is formed like the radiated, with the addition of a star on each ray; and is only used upon tomb-stones, monuments, and the like.—Others of the ancient crowns are still borne, as crests, by several families.

But modern crowns are only used as an ornament, which emperors, kings, and independent princes set on their heads, in great solemnities, both to denote their sovereign authority, and to render themselves more awful to their subjects. These are the most in use in heraldry, and are as follows:

The imperial crown (n^o 1.), is made of a circle of gold, adorned with precious stones and pearls, heightened with fleurs-de-lis, bordered and seeded with pearls, raised in the form of a cap voided at the top, like a crescent. From the middle of this cap rises an arched fillet enriched with pearls, and surmounted of a mound, whereon is a cross of pearls. Plate CCXXXII. fig. 20.

The crown of the kings of Great Britain (2.) is a circle of gold, bordered with ermine, enriched with pearls and precious stones, and heightened up with four crosses pattee and four large fleurs-de-lis alternately; from these rise four arched diadems adorned with pearls, which close under a mound, surmounted of a cross like those at bottom. Mr Sandford, in his Genealogical History, p. 381. remarks, that Edward

 **Crowns.** ward IV. is the first king of England that in his seal, or on his coin, is crowned with an arched diadem.

The crown of the kings in France (3.) is a circle enamelled, adorned with precious stones, and heightened up with eight arched diadems, rising from as many fleurs-de-lis, that conjoin at the top under a double fleur-de-lis, all of gold.

The crowns of Spain, Portugal, and Poland, are all three of the same form, and are, amongst others, thus described by colonel Parsons, in his *Genealogical Tables of Europe*, viz. A ducal coronet, heightened up with eight arched diadems that support a mound, ensigned with a plain cross. Those of Denmark and Sweden are both of the same form; and consist of eight arched diadems, rising from a marquis's coronet, which conjoin at the top under a mound ensigned with a cross-bottomy.

The crowns of most other kings are circles of gold, adorned with precious stones, and heightened up with large trefoils, and closed by four, six, or eight diadems, supporting a mound, surmounted of a cross.

The Great Turk (4) bears over his arms a turband, enriched with pearls and diamonds, under two coronets, the first of which is made of pyramidal points heightened up with large pearls, and the uppermost is surmounted with crescents.

The Pope, or bishop of Rome, appropriates to himself a Tiara (n° 5.), or long cap of golden cloth, from which hang two pendants embroidered and fringed at the ends, *semée* of crosses of gold. This cap is inclosed by three marquis's coronets; and has on its top a mound of gold, whereon is a cross of the same, which cross is sometimes represented by engravers and painters pometted, recrossed, flowery, or plain.—It is a difficult matter to ascertain the time when these haughty prelates assumed the three forementioned coronets. A patched up succession of the holy pontiffs, engraved and published a few years ago by order of Clement XIII. the late Pope, for the edification of his good subjects in Great Britain and Ireland, represents Marcellus, who was chosen bishop of Rome anno 310, and all his successors, adorned with such a cap: but it appears, from very good authority, that Boniface VIII. who was elected into the see of Rome anno 1295, first compassed his cap with a coronet; Benedict XII. in 1335, added a second to it; and John XXIII. in 1411, a third; with a view to indicate by them, that the Pope is the sovereign priest, the supreme judge, and the sole legislator amongst Christians.

SECT. II. Of Coronets.

THE Coronet of the prince of Wales, or eldest son of the king of Great Britain (n° 7.), was anciently a circle of gold set round with four crosses-patee, and as many fleurs-de-lis alternately; but since the restoration, it has been closed with one arch only, adorned with pearls, and surmounted of a mound and cross, and bordered with ermine like the king's.

Besides the aforesaid coronet, his royal highness the prince of Wales has another distinguishing mark of honour, peculiar to himself, called by the vulgar the *prince's arms*, viz. A plume of three ostrich-feathers, with an ancient coronet of a prince of Wales. Under it, in a scroll, is this motto, *Ich Dien*, which in the

German or old Saxon language signifies "I serve;" (see n° 6). This device was at first taken by Edward prince of Wales, commonly called the *black prince*, after the famous battle of Cressle, in 1346, where having with his own hand killed John king of Bohemia, he took from his head such a plume, and put it on his own.

The coronet of all the immediate sons and brothers of the kings of Great Britain, is a circle of gold, bordered with ermine, heightened up with four fleurs-de-lis, and as many crosses-patee alternate, (see n° 8).—The particular and distinguishing form of such coronets as are appropriated to princes of the blood-royal, is described and settled in a grant of Charles II. the 13th of his reign.

The coronet of the princesses of Great Britain is a circle of gold, bordered with ermine, and heightened up with crosses-patee, fleurs-de-lis, and strawberry leaves alternate (n° 9.); whereas a prince's coronet has only fleurs-de-lis and crosses.

A duke's coronet is a circle of gold bordered with ermine, enriched with precious stones and pearls, and set round with eight large strawberry or parsley leaves; (n° 10).

A marquis's coronet is a circle of gold, bordered with ermine, set round with four strawberry leaves, and as many pearls on pyramidal points of equal height, alternate; (n° 11).

An earl's coronet is a circle of gold, bordered with ermine, heightened up with eight pyramidal points or rays, on the tops of which are as many large pearls, and are placed alternately with as many strawberry-leaves, but the pearls much higher than the leaves; (n° 12).

A viscount's coronet differs from the preceding ones as being only a circle of gold bordered with ermine, with large pearls set close together on the rim, without any limited number, which is his prerogative above the baron, who is limited; (see n° 13).

A baron's coronet, (n° 14), which was granted by king Charles II. is formed with six pearls set at equal distance on a gold circle, bordered with ermine, four of which only are seen on engravings, paintings, &c. to show he is inferior to the viscount.

The eldest sons of peers, above the degree of a baron, bear their father's arms and supporters with a label, and use the coronet appertaining to their father's second title; and all the younger sons bear their arms with proper differences, but use no coronets.

As the crown of the king of Great Britain is not quite like that of other potentates, so do most of the coronets of foreign noblemen differ a little from those of the British nobility: as for example, the coronet of a French earl is a circle of gold with 18 pearls set on the brim of it; a French viscount's coronet is a circle of gold only enamelled, charged with four large pearls; and a French baron's coronet is a circle of gold enamelled and bound about with a double bracelet of pearls: and these coronets are only used on French noblemen's coats-of-arms, and not worn on their heads, as the British noblemen and their ladies do at the king's coronation.

SECT. III. Of Mitres.

THE archbishops and bishops of England and Ireland

Coronets.

Helmets. land place a mitre over their coats-of-arms. It is a round cap pointed and cleft at the top, from which hang two pendants fringed at both ends; with this difference, that the bishop's mitre is only surrounded with a fillet of gold, set with precious stones, (see fig. 23. n° 6). whereas the archbishop's issues out of a ducal coronet, see fig. 20. n° 15).

This ornament, with other masquerade garments, is still worn by all the archbishops and bishops of the church of Rome, whenever they officiate with solemnity; but it is never used in England, otherwise than on coats-of-arms, as before mentioned.

SECT. IV. *Of Helmets.*

THE Helmet was formerly worn as a defensive weapon, to cover the bearer's head; and is now placed over a coat-of-arms as its chief ornament, and the true mark of gentility. There are several sorts, distinguished, 1st, by the matter they are made of; 2dly, by their form; and, 3dly, by their position.

1st, As to the matter they are, or rather were, made of: The helmets of sovereigns were of burnished gold damasked; those of princes and lords, of silver figured with gold; those of knights, of steel adorned with silver; and those of private gentlemen, of polished steel.

2dly, As to their form: Those of the king and the royal family, and noblemen of Great Britain, are open-faced and grated, and the number of bars serves to distinguish the bearers quality; that is, the helmet appropriated to the dukes and marquises is different from the king's, by having a bar exactly in the middle, and two on each side, making but five bars in all, (see fig. 21. n° 1). whereas the king's helmet has six bars, viz. three on each side, (ibid. n° 7.) The other grated helmet with four bars is common to all degrees of peerage under a marquis. The open-faced helmet without bars denotes baronets and knights. The close helmet is for all esquires and gentlemen.

3dly, Their position is also looked upon as a mark of distinction. The grated helmet in front belongs to sovereign princes. The grated helmet in profile is common to all degrees of peerage. The helmet standing direct without bars, and the beaver a little open, denotes baronets and knights. Lastly, the side-standing helmet, with the beaver close, is the way of wearing it amongst esquires and gentlemen. See n° 1, 2, 3, 4, and 7, inserted in fig. 21. *Ornaments.*

SECT. V. *Of Mantlings.*

MANTLINGS are pieces of cloth jagged or cut into flowers and leaves, which now-a-days serve as an ornament for escutcheons. They were the ancient coverings of helmets, to preserve them, or the bearer, from the injuries of the weather, as also to prevent the ill consequences of their too much dazzling the eye in action. But Guillim very judiciously observes, that their shape must have undergone a great alteration since they have been out of use, and therefore might more properly be termed *flourishings* than *mantlings*. See the examples annexed to the helmets represented in fig. 21.

The French heralds assure us, that these mantlings were originally no other than short coverings which commanders wore over their helmets, and that, going

N° 152.

into battles with them, they often, on their coming away, brought them back in a ragged manner, occasioned by the many cuts they had received on their heads: and therefore the more hacked they were, the more honourable they were accounted; as our colours in time of war are the more esteemed for having been shot through in many places.

Sometimes skins of beasts, as lions, bears, &c. were thus borne, to make the bearer look more terrible; and that gave occasion to the doubling of mantlings with furs.

SECT. VI. *Of Chapeaux.*

A CHAPEAU is an ancient hat, or rather cap, of dignity worn by dukes, generally scarlet-coloured velvet on the outside, lined and turned up with fur; of late frequently to be met with above an helmet, instead of a wreath, under gentlemens and noblemens crests. Heretofore they were seldom to be found, as of right appertaining to private families; but by the grants of Robert Cooke, Clarencieux, and other succeeding heralds, these, together with ducal coronets, are now frequently to be met with in families, who yet claim not above the degree of gentlemen. See the representation of the chapeau, n° 5. fig. 21.

SECT. VII. *Of Wreaths.*

THE Wreath is a kind of roll made of two skains of silk of different colours twisted together, which ancient knights wore as a head-dress when equipped for tournaments. The colours of the silk are always taken from the principal metal and colour contained in the coat-of-arms of the bearer. They are still accounted as one of the lesser ornaments of escutcheons, and are placed between the helmet and the crest; (see fig. 21. n° 6). In the time of Henry I. and long after, no man, who was under the degree of a knight, had his crest set on a wreath; but this, like other prerogatives, has been unfringed so far, that every body now-a-days wears a wreath.

SECT. VIII. *Of Crests.*

THE Crest is the highest part of the ornaments of a coat-of-arms. It is called *crest*, from the Latin word *crisla*, which signifies comb or tuft, such as many birds have upon their heads, as the peacock, pheasant, &c. in allusion to the place on which it is fixed.

Crests were formerly great marks of honour, because they were only worn by heroes of great valour, or by such as were advanced to some superior military command, in order that they might be the better distinguished in an engagement, and thereby rally their men if dispersed; but they are at present considered as a mere ornament. The crest is frequently a part either of the supporters, or of the charge borne in the escutcheon. Thus the crest of the royal achievement of Great Britain is a "Lion guardant crown'd," as may be seen in fig. 21. n° 7. The crest of France is a double Fleur-de-luce." Out of the many crests borrowed from supporters, are the following, viz. The duke of Montagu's, "A Griffon's head coup'd Or, back'd and wing'd Sable;" the marquis of Rockingham's, "A Griffon's head argent, gorg'd with a ducal coronet;" the earl of Westmoreland's; "A Bull's head Argent, py'd Sable, armed Or; and lord Archer's

Fig. 19.
CHIMERICAL FIGURES.



HERALDRY.

Fig. 20. Plate CCXXXII.
CROWNS.

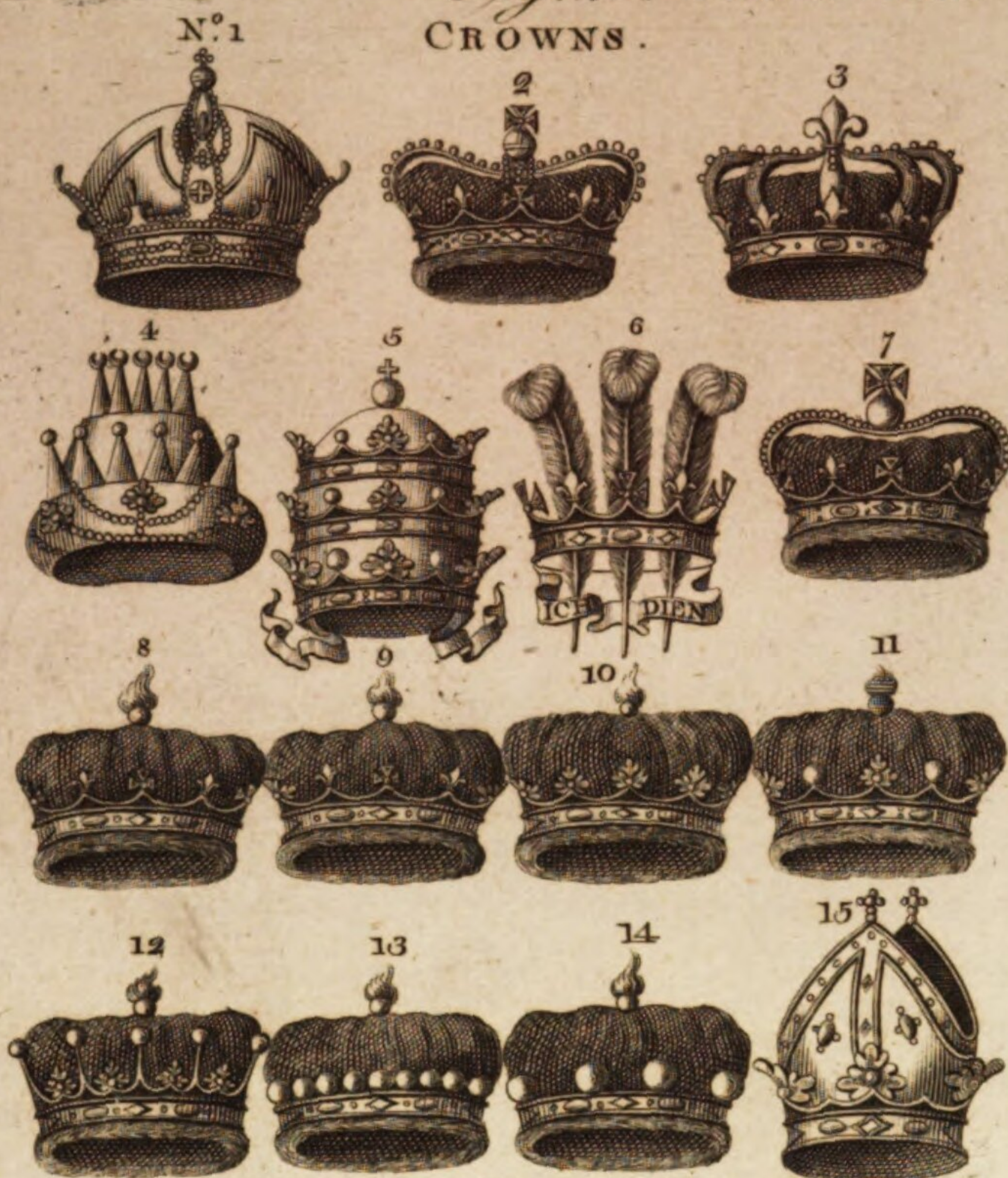
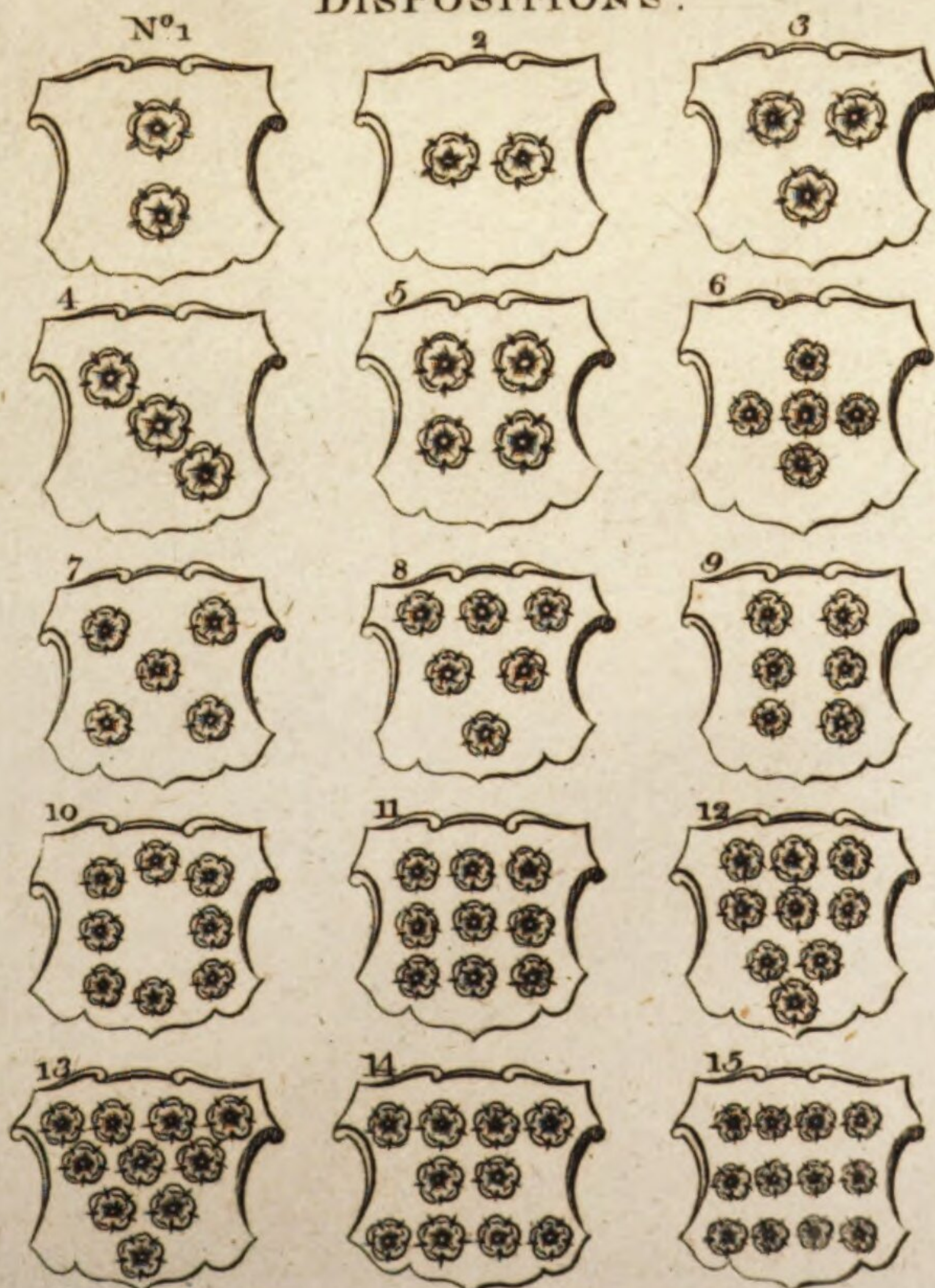


Fig. 21.
ORNAMENTS &c.



Fig. 22.
DISPOSITIONS.



At Bell's Prin. Wal. sculptor fecit.

Of the
Scroll, &c.

Archer's, which is, "Out of a mural crown Or, a Wyvern's head Argent." There are several instances of crests that are relative to alliances, employments, or names; and which on that account have been changed.

SECT. IX. *Of the Scroll.*

THE Scroll is the ornament placed above the crest, containing a motto, or short sentence, alluding thereto, or to the bearings; or to the bearer's name, as in the two following instances. The motto of the noble earl of Cholmondeley is, *Cassis tutissima virtus*; i. e. "Virtue is the safest helmet;" on account of the helmet in the coat of arms. The motto of the right hon. lord Fortescue is, *Forte scutum salus ducum*; i. e. "A strong shield is the safety of the commanders;" alluding to the name of that ancient family. Sometimes it has reference to neither, but expresses something divine or heroic; as that of the earl of Scarborough, which is, *Murus æreus conscientia sana*; i. e. "A good conscience is a wall of brass." Others are ænigmatical; as that of the royal achievement, which is *Dieu et mon droit*, i. e. "God and my right;" introduced by Edward III. in 1340, when he assumed the arms and title of *king of France*, and began to prosecute his claim, which occasioned long and bloody wars, fatal, by turns, to both kingdoms: or that of the prince of Wales, which is *Ich Dien*, "I serve," the origin of which has been already mentioned. Mottos, though hereditary in the families that first took them up, have been changed on some particular occasions, and others appropriated in their stead, instances of which are sometimes met with in the history of families.

SECT. X. *Of Supporters.*

SUPPORTERS are figures standing on the scroll, and placed at the side of the escutcheon; they are so called, because they seem to support or hold up the shield. The rise of supporters is, by F. Menestrier, traced up to ancient tournaments, wherein the knights caused their shields to be carried by servants or pages under the disguise of lions, bears, griffons, blackamoors, &c. who also held and guarded the escutcheons, which the knights were obliged to expose to public view for some time before the lists were opened. Sir George Mackenzie, who dissents from this opinion, says, in his *Treatise on the science of heraldry*, chap. xxxi. p. 93. "That the first origin and use of them was from the custom which ever was, and is, of leading such as are invested with any great honour to the prince who confers it: thus, when any man is created a duke, marquis, or knight of the garter, or any other order, he is supported by, and led to the prince betwixt, two of the quality, and so receives from him the symbols of that honour; and in remembrance of that solemnity, his arms are thereafter supported by any two creatures he chooses." Supporters have formerly been taken from such animals or birds as are borne in the shields, and sometimes they have been chosen as bearing some allusion to the names of those whose arms they are made to support. The supporters of the arms of Great Britain, since king James the first's accession to the throne, are a *Lion rampant guardant crowned Or*, on the dexter side, and an *Unicorn Argent, crowned, armed, unguled, maned and gorged with an an-*

tique Crown, to which a chain is affixed, all Or, on the sinister; as it appears by fig. xxi. n° 7.

This last figure represents the coat-of-arms of the king of Great Britain, or the royal achievement, as it has been marshalled since the accession of king George I. in 1714, and is blazoned as follows, viz.

ARMS. *Quarterly, in the first grand quarter Gules, three Lions rampant guardant in pale Or*, the imperial ensigns of England; *impaled with Or, a Lion rampant, within a double tressure flowery and counter-flowery Gules*, the royal arms of Scotland. *The second is Azure, three Fleurs-de-lis Or*, the arms of France. *The third is Azure, a Harp Or, stringed Argent*, the ensign of Ireland. *The fourth grand quarter is Gules, two Lions passant guardant in pale Or*, for Brunswick; *impaled with Or semee of Hearts proper, a Lion rampant Azure*, for Lunenburg; *with grafted in base Gules, a Horse current Argent*, for ancient Saxony; and in a shield surmounting Gules, the Crown of Charlemagne Or, as arch-treasurer of the empire; the whole within a Garter, inscribed with this motto, *HONI SOIT QUI MAL Y PENSE*, as sovereign of that noble order, given by the founder king Edward III.

CREST. *On a Helmet full-faced, grated and surmounted of a Crown, a Lion guardant crowned Or; the mantlings of the last, and lining Ermine.*

SUPPORTERS. *On the Dexter side a Lion rampant guardant Or, crowned as the Crest. On the Sinister side an Unicorn Argent, crowned, armed, maned, and unguled Or, gorged with an antique Crown; a Chain affixed thereto, reflecting over the back, and passing over the hind legs of the last, both standing on a Scroll inscribed with this motto, DIEU ET MON DROIT, from which issue the two Royal Badges of his Majesty's chief Dominions, viz, on the Dexter side a Rose party per Pale Argent and Gules, stalked and leaved proper for England; and on the Sinister side a Thistle proper, for Scotland; being so adorned by king James I. upon his succeeding to the Crown of England. As king of Scotland, he bore two unicorns, as above, for his supporters; but upon the union of that kingdom with England, 1603, he introduced one of the above supporters on the sinister side of the royal achievement, and which continues to this day.*

It is to be observed, that bearing coats-of-arms supported, is, according to the heraldical rules of England, the prerogative, 1st, Of those called *nobiles majores*, viz. dukes marquises, earls, viscounts, and barons; 2d, Of all knights of the garter, though they should be under the degree of barons; 3d, Of knights of the Bath, who both receive on their creation a grant of supporters. And, lastly, of such knights as the king chooses to bestow this honour upon; as in the instance of Sir Andrew Fountain, who was knighted by Philip earl of Pembroke, when lord-lieutenant of Ireland, Fountain being then his secretary; and on his return to England, king William granted him supporters to his arms, viz. *two Griffons Gules and Or*. In Scotland, all the chiefs of clans or names have the privilege of claiming supporters; also the baronets. But by act of parliament, 10th September 1672, none are allowed to use either arms or supporters, under a penalty and confiscation of all moveables whereon arms are put, without the lord Lyon's authority.

Of
Supporters.

Of the Rules or Laws of HERALDRY.

THE several escutcheons, tinctures, charges, and ornaments of coats-of-arms, and their various properties, being now explained; it may not be improper to subjoin such rules for blazoning the same, as the ancient usage and laws of heraldry have established amongst us.

I. The *first* and most general rule is, to express one's self in proper terms, so as not to omit any thing that ought to be specified, and at the same time to be clear and concise without tautology; as in Ex. xiv. p. 446. and also in Ex. ix. p. 453. wherein these expressions, *of the Field*, or *of the First*, prevent the repetition of the forementioned tincture.

II. One must begin with the tincture of the field, and then proceed to the principal charges which possess the most honourable place in the shield, such as Fefs, Cheveron, &c. always naming that charge first which lies next and immediately upon the field; as in Ex. xv. p. 451.

III. After naming the tincture of the field, the honourable ordinaries, or other principal figures, you must specify their attributes, and afterwards their metal or colour, as in Ex. xvi. p. 458.

IV. When an honourable ordinary, or some one figure, is placed upon another, whether it be a Fefs, Cheveron, Crofs, &c. it is always to be named after the ordinary or figure over which it is placed, with one of these expressions, *furtout*, or *over all*, as in Example xx. p. 449.

V. In the blazoning of such ordinaries as are plain, the bare mention of them is sufficient; but if an ordinary should be made of any of the crooked lines mentioned above, its form must be specified; that is, whether it be Engrailed, Wavy, &c. as in Ex. i. ii. iii. &c. p. 446.

VI. When a principal figure possesses the centre of the field, its position is not to be expressed: or (which amounts to the same thing) when a bearing is named, without specifying the point where it is placed, then it is understood to possess the middle of the shield; as in Ex. xv. p. 459.

VII. The number of the points of mullets or stars must be specified when more than five; and also if a mullet or any other charge be pierced, it must be mentioned as such, to distinguish it from what is plain; as in Ex. xiii. and xiv. p. 457.

VIII. When a ray of the sun, or other single figure, is borne in any other part of the escutcheon than the centre, the point it issues from must be named; as in Ex. iii. p. 457. col. 1.

IX. The natural colour of trees, plants, fruits, birds, &c. is no otherwise to be expressed in blazoning but by the word *proper*, as in Exam. ii. vii. p. 459.: but if discoloured, that is, if they differ from their natural colour, it must be particularized; as in Ex. i. ii. &c. p. 458.

X. When three figures are in a field, and their position is not mentioned in the blazoning, they are always understood to be placed two above, and one below; as fig. xxii. n° 3.

XI. When there are many figures of the same species borne in a coat-of-arms, their number must be

observed as they stand, and distinctly expressed; as in Marshall-
Ex. i. p. 460. ling.

But for the better understanding of this last rule, we have inserted examples of the *different dispositions of figures*, wherein they are properly represented; viz.

Two may be ranged in Pale, in Fefs, &c. See fig. xxii. n° 1 and 2.

Three, may be 2 and 1, as also in bend, &c. See n° 3 and 4.

Four, are placed 2 and 2, or cantoned, as in n° 5.

Five, 1, 3, 1, in Crofs; or 2, 1, 2, in Saltier. See n° 6 and 7.

Six, 3, 2, 1, in Pile; or 2, 2, 2, Paleways. See n° 8 and 9.

Eight, in Orle, or on a Bordure. See n° 10.

Nine, 3, 3, 3, Barways; or 3, 3, 2, 1, in Pile. See n° 11 and 12.

Ten, 4, 3, 2, 1, in Pile; or else 4, 2, 4, Barways. See n° 13 and 14.

Twelve, are placed 4, 4, 4, Barways. See n° 15.

There are other positions called *irregular*; as for example, when three figures which are naturally placed 2 and 1, are disposed 1 and 2, &c. It must also be observed, that when the field is strewn with the same figures, this is expressed by the word *semée*: but, according to a French armorist's opinion, if the figures strewn on the field are whole ones, it must be denoted by the words *sans nombre*; whereas, if part of them is cut off at the extremities of the escutcheon, the word *semée* or *femi* is then to be used.

C H A P. VI.

Of MARSHALLING Coats-of-arms.

By *marshalling* coats-of-arms, is to be understood the art of disposing divers of them in one escutcheon, and of distributing their contingent ornaments in proper places.

Various causes may occasion arms to be thus conjoined, which J. Guillim comprises under two heads, viz. *manifest* and *obscure*.

What this learned and judicious herald means by *manifest causes* in the marshalling of coats-of-arms, are such as betoken marriages, or a sovereign's gift, granted either through the special favour of the prince, or for some eminent services. Concerning marriages it is to be observed.

I. When the coats-of-arms of a married couple, descended of distinct families, are to be put together in one escutcheon, the field of their respective arms is conjoined Paleways, and blazoned *parted per Pale*, *Baron and Femme, two coats; first, &c.* In which case the baron's arms are always to be placed on the dexter-side, and the femme's arms on the sinister-side, as in n° 1 and 2, fig. xxiii. *Of arms marshalled*, which are,

1. The coat-of-arms of the rev. Edward Barnard, D. D. chaplain in ordinary to his majesty, provost of Eton-college, canon of Windsor, &c. impaled with that of S. Hagatt, his late spouse.

2. The coat-of-arms of the rev. Thomas Dampier, D. D. chaplain in ordinary to his majesty, prebendary of Durham, canon of Windsor, &c. impaled with that of F. Walker, his spouse.

If a widower marry again, his late and present wife's

Marshall-
ling.

wife's arms are, according to G. Leigh, "to be both placed on the sinister-side, in the escutcheon with his own, and parted per Pale. The first wife's coat shall stand on the Chief, and the second on the Base; or he may set them both in Pale with his own, the first wife's coat next to himself, and his second outermost. If he should marry a third wife, then the two first matches shall stand on the Chief, and the third shall have the whole Base. And if he take a fourth wife, she must participate one-half of the Base with the third wife, and so will they seem to be so many coats quartered." But it must be observed, that these forms of impaling are meant of hereditary coats, whereby the husband stands in expectation of having the hereditary possessions of his wife united to his patrimony.

II. In the arms of femmes joined to the paternal coat of the baron, the proper differences by which they were borne by the fathers of such women must be inserted.

III. If a coat-of-arms that has a Bordure be impaled with another, as by marriage, then the Bordure must be wholly omitted in the side of the arms next the centre.

Fig. xiii.

IV. The person that marries an heiress, instead of impaling his arms with those of his wife, is to bear them in an escutcheon placed in the centre of his shield, after the same manner as the baronet's badge is marshalled in n° 3. and which, on account of its showing forth his pretension to her estate, is called *an escutcheon of pretence*, and is blazoned *surtout, i. e. over-all*, as in the escutcheon borne in the fourth quarter of the royal achievement. But the children are to bear the hereditary coat-of-arms of their father and mother *quarterly*, which denotes a fixed inheritance, and so transmit them to posterity. The first and fourth quarters generally contain the father's arms, and the second and third the mother's; except the heirs should derive not only their estate, but also their title and dignity, from their mother.

V. If a maiden or dowager lady of quality marry a commoner, or a nobleman inferior to her rank, their coats-of-arms may be set aside of one another in two separate escutcheons, upon one mantle or drapery, and the lady's arms ornamented according to her title; see n° 4 and 5, which represent the coats-of-arms of Gen. C. Montagu, and lady Elizabeth Villiers viscountess Grandison.

VI. Archbishops and bishops impale their arms differently from the fore-mentioned coats, in giving the place of honour, that is, the dexter-side, to the arms of their dignity, as it is expressed in n° 6, which represents the coat-of-arms of Dr Phillip Yonge, lord bishop of Norwich. It may be observed of the above prelates, that they thus bear their arms parted per Pale, to denote their being joined to their cathedral church in a sort of spiritual marriage.

With respect to such armorial ensigns as the sovereign thinks fit to augment a coat-of-arms with, they may be marshalled various ways, as may be seen by the arms of his grace the duke of Rutland, inserted in fig. viii. n° 19. and the example contained in fig. xii. n° 11.

To those augmentations may be added, 1st, The baronet's mark of distinction, or the arms of the pro-

vince of Ulster in Ireland, granted and made hereditary in the male line by king James I. who erected this dignity on the 22d of May 1611, in the 9th year of his reign, in order to propagate a plantation in the fore-mentioned province. This mark is *Argent, a sinister Hand couped at the Wrist, and erected Gules*; which may be borne either in a canton, or in an escutcheon, as will best suit the figures of the arms. See fig. xxiii. n° 3. which represents the coat-of-arms of Sir William Lorrayne, of Kirk-harle, Northumberland, and are thus blazoned: *Quarterly, Sable and Argent, a plain Cross counter-quartered of the Field. The Crest,—A Laurel-tree couped, two branches sprouting out proper, and fixed to the lower part thereof with a Belt Gules, edged and buckled Or.* This, according to tradition in the family, was granted for some worthy action in the field.

2dly, The ancient and respectable badge of the most noble order of the Garter, instituted by king Edward III. 1349, in the 27th year of his reign; and which, ever since its institution, has been looked upon as a great honour bestowed on the noblest persons of this nation and other countries. This honourable augmentation is made to surround, as with a garter, the arms of such knights, and is inscribed with this motto, *Honi soit qui mal y pense*: See n° 7. which represents the coat-of-arms of his grace the duke of Montagu, earl of Cardigan, baron Brudenel of Stanton-Wivil, constable and lieutenant of Windsor-castle, knight of the most noble order of the Garter, and baronet, president of St Luke's Hospital, and F. R. S.

This nobleman, whose arms were *Argent, a Chevron Gules between three Morions proper*, has, since the decease of John duke of Montagu, taken the name and arms of *Montagu*, on account of his being married to lady Mary Montagu, youngest daughter and one of the co-heiresses of his grace.

So far the causes for marshalling divers arms in one shield, &c. are *manifest*. As to such as are called *obscure*, that is, when coats-of-arms are marshalled in such a manner, that no probable reason can be given why they are so conjoined, they must be left to heralds to explain, as being the properest persons to unfold these and other mysteries of this science.

C H A P. VII.

Of FUNERAL ESCUTCHEONS,

AFTER having treated of the essential parts of the coats-of-arms, of the various charges and ornaments usually borne therewith, of their attributes and dispositions, and of the rules for blazoning and marshalling them, we shall next describe the several funeral escutcheons, usually called *hatchments*; whereby may be known, after any person's decease, what rank either he or she held when living; and if it be a gentleman's hatchment, whether he was a bachelor, married man, or widower, with the like distinctions for gentlewomen.

The hatchment, N° 1. represents such as are affixed to the fronts of houses, when any of the nobility and gentry dies; the arms therein being those of a private gentleman and his wife parted per pale; the dexter-side, which is Gules, three Bars Or, for

Plate
CCXXXIII
fig. xxiv.

Of Escut-
cheons.

the husband; having the ground without the escutcheon black, denotes the man to be dead; and the ground on the sinister-side being white, signifies that the wife is living, which is also demonstrated by the small hatchment, n° 2. which is here depicted without mantling, helmet, and crest, for perspicuity's sake only.

When a married gentlewoman dies first, the hatchment is distinguished by a contrary colour from the former; that is, the arms on the sinister-side have the ground without the escutcheon black; whereas those on the dexter side, for her surviving husband, are upon a white ground: the hatchment of a gentlewoman is, moreover, differenced by a cherub over the arms instead of a crest. See n° 3.

When a bachelor dies, his arms may be depicted single or quartered, with a crest over them, but never impaled as the two first are, and all the ground without the escutcheon is also black. See n° 4.

When a maid dies, her arms, which are placed in a lozenge, may be single or quartered, as those of a bachelor; but, instead of a crest, have a cherub over them, and all the ground without the escutcheon is also black. See n° 5.

When a widower dies, his arms are represented impaled with those of his deceased wife, having a helmet, mantling, and crest over them, and all the ground without the escutcheon black. See n° 6.

When a widow dies, her arms are also represented impaled with those of her deceased husband, but inclosed in a lozenge, and, instead of a crest, a cherub is placed over them; all the ground without the escutcheon is also black. See n° 7.

If a widower or bachelor should happen to be the last of his family, the hatchment is depicted as in n° 6. and that of a maid or widow, whose family is extinct by her death, is depicted as in n° 7. with this difference only, that a death-head is generally annexed to each hatchment, to denote, that death has conquered all.

By the forementioned rules, which are sometimes neglected through the ignorance of illiterate people, may be known, upon the sight of any hatchment, what branch of the family is dead; and by the helmet or coronet, what title and degree the deceased person was of.

The same rules are observed with respect to the escutcheons placed on the hearse and horses used in pompous funerals, except that they are not surmounted with any crest, as in the foregoing examples of hatchments, but are always plain. It is necessary, however, to ensign those of peers with coronets, and that of a maiden lady with a knot of ribbands.

In *Scotland*, a funeral escutcheon not only shows forth the arms and condition of the defunct, but is also a proof of the gentility of his descent; and such persons for whom this species of escutcheon can be made out, are legally intitled to the character of gentleman of blood, which is the highest species of gentility. The English hatchment above described exhibits no more than a right to a coat-of-arms which may be acquired by purchase, and is only the first step towards establishing gentility in a family.

The funeral escutcheon, as exhibited in *Scotland*, *France*, and *Germany*, is in form of a lozenge, above six feet square, of black cloth; in the centre of which is painted, in proper colours, the complete achievement of the defunct, with all its exterior ornaments and additional marks or badges of honour; and round the sides are placed the sixteen arms of the families from which he derives his descent, as far back as the grandfather's grandfather, as the proofs of his gentility: they exhibit the armorial bearings of his father and mother, his two grandmothers, his four great-grandmothers, and his eight great-grandmothers mothers; if all these families have acquired a legal right to bear arms, then the gentility of the person whose proof it is must be accounted complete, but not otherwise. On the four corners are placed mort-heads, and the initials of his name and titles or designation; and the black interstices are semée or powdered with tears, as in the figure, n° 8. which is the escutcheon of the right hon. James 5th earl of Balcarras, chief of the ancient surname of *Lindesay*.

On the morning of the interment, one of these is placed on the front of the house where the deceased lies; and another on the church in which he is to be buried, which after the burial is fixed above the grave. The pall, too, is generally adorned with these proofs of gentility, and the horses of the hearse with the defunct's arms.

H E R

Heraldus.

HERALDUS (Desiderius), in French *Herault*, a counsellor of the parliament of Paris, has given good proofs of uncommon learning by very different works. His *Adversaria* appeared in 1599; which little book, if the *Scaligerana* may be credited, he repented the having published. His notes on Tertullian's Apology, on Minutius Felix, and on Arnobius, have been esteemed. He also wrote notes on Martial's Epigrams. He disguised himself under the name of *David Leidh-refferus*, to write a political dissertation on the independence of kings, some time after the death of Henry IV. He had a controversy with Salmasius, *De jure Attico ac Romano*; but did not live to finish what he had written on that subject. What he had done,

H E R

however, was printed in 1650. He died in June 1649. Heraldus. Guy Patin says, that "he was looked upon as a very learned man, both in the civil law and in polite literature, and wrote with great facility on any subject he pitched on." Daille, speaking of such Protestant writers as condemned the executing of Charles I. king of England, quotes the *Pacifique Royal en deuil*, by Herault. This author, son to our Desiderius Heraldus, was a minister in Normandy, when he was called to the service of the Walloon-church of London under Cha. I. and he was so zealous a royalist, that he was forced to fly to France, to escape the fury of the commonwealthsmen. He returned to England after the Restoration, and resumed his ancient employment in the Walloon-church.

Fig. 23. Arms Marshallled.

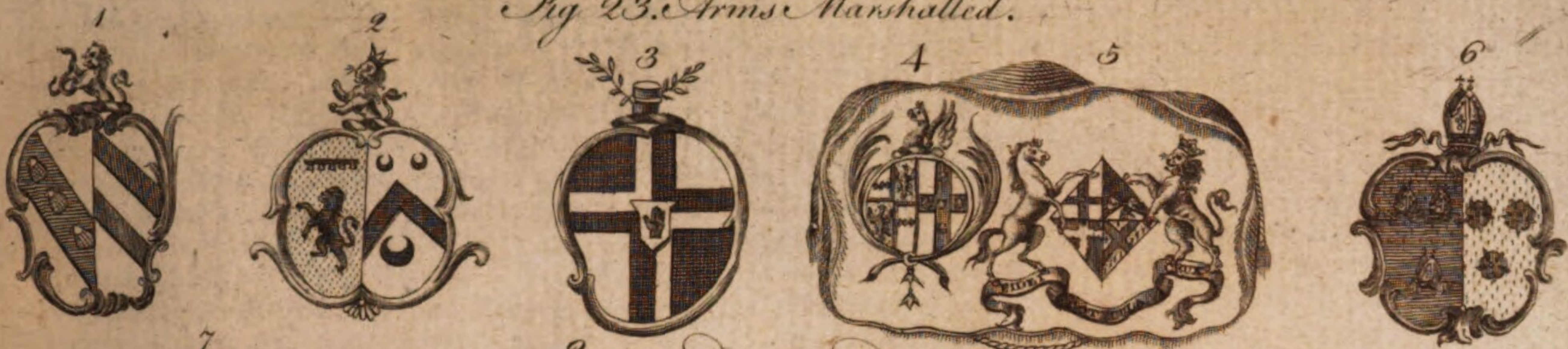
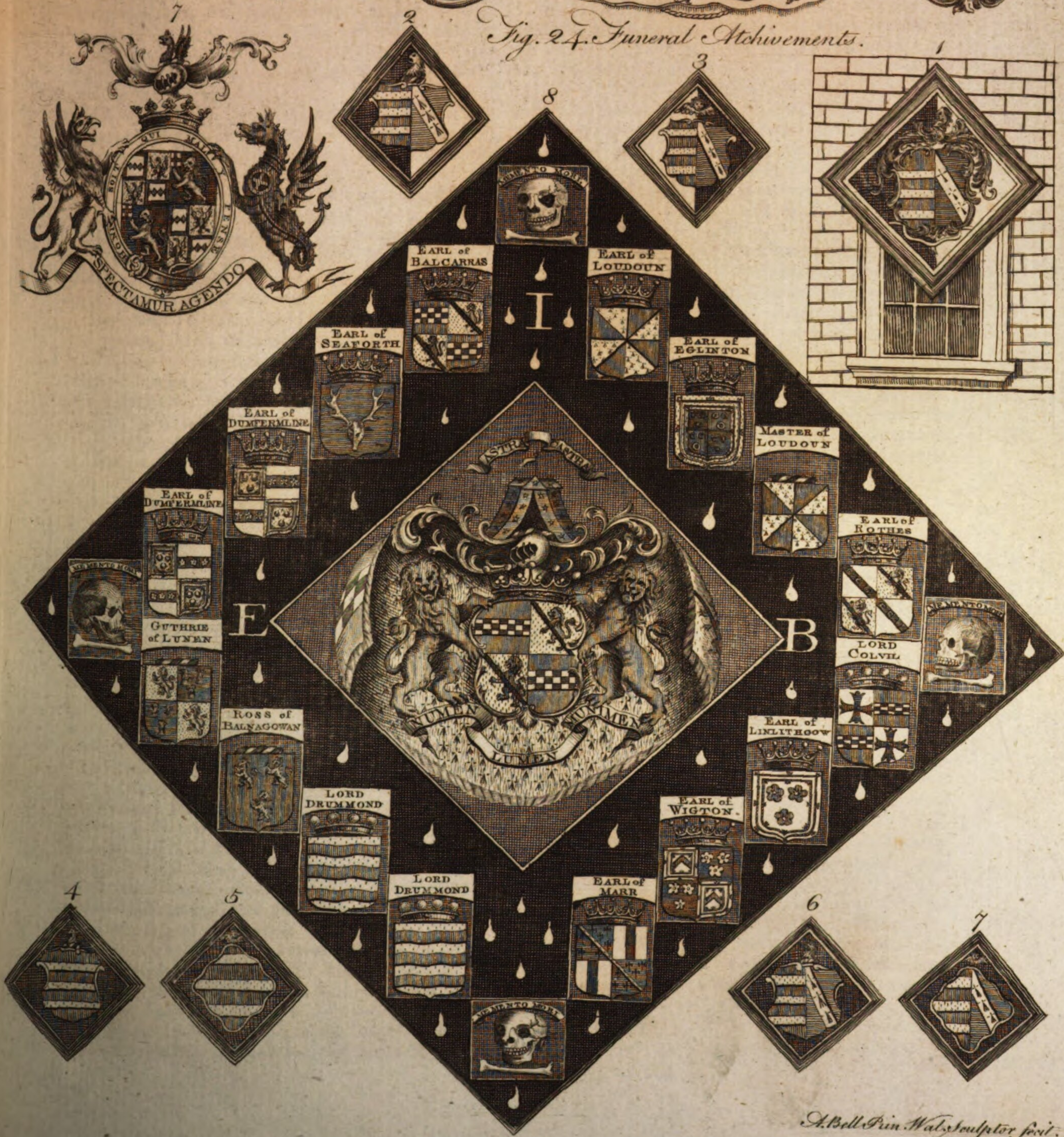


Fig. 24. Funeral Achievements.



Herb church at London: some time after which he obtained a canonry in the cathedral of Canterbury, and enjoyed it till his death.

HERB, in botany; a name by which Linnæus denominates that portion of every vegetable which arises from the root, and is terminated by the fructification. It comprehends, 1. The trunk, stalk, or stem. 2. The leaves. 3. Those minute external parts called by the same author the *fulcra* or supports of plants. 4. The buds, or, as he also terms them, the *winter-quarters* of the future vegetable.

HERB-Christopher. See ACTÆA.

HERB-Robert, (a species of GERANIUM); a plant in great reputation with some farmers on account of its prevailing virtues against staling of blood and the bloody-flux in cattle, in which cases it is said to be the best among a great variety of means commonly used on these occasions.

HERBACEOUS PLANTS, are those which have succulent stems or stalks that lie down to the ground every year. Of herbaceous plants, those are annual which perish stem and root and all every year; biennial, which subsist by the roots two years; perennial which are perpetuated by their roots for a series of years, a new stem being produced every spring.

HERBAGE, in law, signifies the pasture provided by nature for the food of cattle; also the liberty to feed cattle in the forest, or in another person's ground.

HERBAL, signifies a book that treats of the classes, genera, species, and virtues of plants.

HERBAL is sometimes also used for what is more usually called *hortus siccus*. See HORTUS.

HERBELOT (Bartholomew d'), a French writer, eminent for his oriental learning, was born at Paris in 1625. He travelled several times into Italy, where he obtained the esteem of some of the most learned men of the age. Ferdinand II. grand duke of Tuscany, gave him many marks of his favour: a library being exposed to sale at Florence, the duke desired him to examine the manuscripts in the oriental languages, to select the best of them, and to mark the price; which being done, that generous prince purchased them, and made him a present of them. M. Colbert being at length informed of Herbelot's merit, recalled him to Paris, and obtained a pension for him of 1500 livres: he afterwards became secretary and interpreter of the oriental languages, and royal professor of the Syriac tongue. He died at Paris in 1695. His principal work is intitled *Bibliothèque Orientale*, which he first wrote in Arabic, and afterwards translated into French. It is greatly esteemed. M. Herbelot's modesty was equal to his erudition; and his uncommon abilities were accompanied with the utmost probity, piety, and charity, which he practised thro' the whole course of his life.

HERBERT (Mary), countess of Pembroke, was sister of the famous Sir Philip Sidney, and wife of Henry earl of Pembroke. She was not only a lover of the muses, but a great encourager of polite literature; a character not very common among ladies. Her brother dedicated his incomparable romance *Arcadia* to her, from which circumstance it hath been called *The Countess of Pembroke's Arcadia*. She translated a dramatic piece from the French, intitled *Antonius*, a tragedy; though it is said she was assisted by her lord's

chaplain, Dr Babington, afterwards bishop of Exeter. She also turned the psalms of David into English metre; but it is doubtful whether these works were ever printed. She died in 1621; and an exalted character of her is to be found in Francis Osborne's memoirs of king James I.

HERBERT (Edward), lord Herbert of Cherbury in Shropshire, an eminent English writer, was born in 1581, and educated at Oxford; after which he travelled, and at his return was made knight of the Bath. James I. sent him ambassador to Louis XIII. in behalf of the Protestants who were besieged in several cities of France; and continued in this station till he was recalled, on account of a dispute between him and the constable de Luines. In 1625 he was advanced to the dignity of a baron in the kingdom of Ireland, by the title of lord Herbert of Castle Island; and in 1631 to that of lord Herbert of Cherbury in Shropshire. After the breaking out of the civil wars, he adhered to the parliament; and in 1644 obtained a pension, on account of his having been plundered by the king's forces. He wrote A History of the Life and Reign of Henry VIII. which was greatly admired; a treatise *De veritate*; and several other works. He died at London in 1648.

"Lord Herbert (says Mr Granger) stands in the first rank of the public ministers, historians, and philosophers of his age. It is hard to say whether his person, his understanding, or his courage, was the most extraordinary; as the fair, the learned, and the brave, held him in equal admiration. But the same man was wise and capricious; redressed wrongs, and quarrelled for punctilios; hated bigotry in religion, and was himself a bigot to philosophy. He exposed himself to such dangers as other men of courage would have carefully declined: and called in question the fundamentals of a religion which none had the hardiness to dispute besides himself."

HERBERT (George), an English poet and divine, was brother to the preceding. He was born in 1593, and educated at Cambridge. In 1619 he was chosen public orator of that university, and afterwards obtained a sinecure from the king. In 1626 he was collated to the prebend of Layton Ecclesia, in the diocese of Lincoln; and in 1630 was inducted into the rectory of Bamerton, near Sarum. The great lord Bacon had such an opinion of his judgment, that he would not suffer his works to be printed before they had passed his examination. He wrote a volume of devout poems, called *The Temple*, and another intitled *The Priest of the Temple*. This pious divine died about the year 1635.

HERBERT (William), earl of Pembroke, was born at Wilton in Wiltshire, 1580; and admitted of New-college in Oxford in 1592, where he continued about two years. In 1601, he succeeded to his father's honours and estate; was made K. G. in 1604; and governor of Portsmouth six years after. In 1626, he was elected chancellor of the university of Oxford; and about the same time made lord steward of the king's household. He died suddenly at his house called *Baynard's castle*, in London, April 10. 1630; according to the calculation of his nativity, says Wood, made several years before by Mr Thomas Allen of Gloucester-hall. Clarendon relates concerning this calculation, that

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that some considerable persons connected with lord Pembroke being met at Maidenhead, one of them at supper drank a health to the lord steward: upon which another said, that he believed his lordship was at that time very merry; for he had now outlived the day, which it had been prognosticated upon his nativity he would not outlive; but he had outlived it now, for that was his birth-day, which had completed his age to 50 years. The next morning, however, they received the news of his death. Whether the noble historian really believed this and other accounts relating to astrology, apparitions, providential interpositions, &c. which he has inserted in his history, we do not presume to say: he delivers them, however, as if he did not actually disbelieve them. Lord Pembroke was not only a great favourer of learned and ingenious men, but was himself learned, and endued with a considerable share of poetic genius. All that are extant of his productions in this way were published with this title: "Poems written by William Earl of Pembroke, &c. many of which are answered by way of repartee by Sir Benjamin Rudyard, with other Poems written by them occasionally and apart, 1660, 8vo.

HERBERT (Sir Thomas), an eminent gentleman of the Pembroke family, was born at York, where his father was an alderman. William earl of Pembroke sent him to travel at his expence in 1626, and he spent four years in visiting Asia and Africa: his expectations of preferment ending with the death of the earl, he went abroad again, and travelled over several parts of Europe. In 1634, he published, in folio, *A Relation of some Years Travel into Africa and the Great Asia*, especially the Territories of the Persian Monarchy, and some parts of the Oriental Indies and Isles adjacent. On the breaking out of the civil war, he adhered to the parliament; and at Oldenby, on the removal of the king's servants, by desire of the commissioners from the parliament, he and James Harrington were retained as grooms of his bed-chamber, and attended him even to the block. At the restoration he was created a baronet by Charles II. for his faithful services to his father during his two last years. In 1678 he wrote *Threnodia Carolina*, containing an account of the two last years of the life of Charles I. and he assisted Sir William Dugdale in compiling the third volume of his *Monasticon Anglicanum*. He died at York in 1682, leaving several MSS to the public library at Oxford, and others to that of the cathedral at York.

HERBIVOROUS ANIMALS, those which feed only on vegetables.

HERCULANEUM is the name of an ancient city of Campania in Italy, which was destroyed by an eruption of Vesuvius in the first year of the emperor Titus, or the 79th of the Christian era, and lately rendered famous on account of the curious monuments of antiquity discovered in its ruins; an account of which has been published by order of the king of Naples, in a work of six volumes folio.—The epocha of the foundation of Herculaneum is unknown. Dionysius Halicarnassensis conjectures that it may be referred to 60 years before the war of Troy, or about 1342 years before Christ; and therefore that it lasted about 1400 years.

The thickness of the heap of lava and ashes by which the city was overwhelmed, has been much in-

creased by fiery streams vomited since that catastrophe; and now forms a mass 24 feet deep of dark grey stone, which is easily broken to pieces. By its non-adhesion to foreign bodies, marbles and bronzes are preserved in it as in a case made to fit them, and exact moulds of the faces and limbs of statues are frequently found in this substance. The precise situation of this subterraneous city was not known till the year 1713, when it was accidentally discovered by some labourers, who, in digging a well, struck upon a statue on the benches of the theatre. Many others were afterwards dug out and sent to France by the prince of Elbœuf. But little progress was made in the excavations till Charles infant of Spain ascended the Neapolitan throne; by whose unwearied efforts and liberality a very considerable part of Herculaneum has been explored, and such treasures of antiquity drawn out as form the most curious museum in the world. It being too arduous a task to attempt removing the covering, the king contented himself with cutting galleries to the principal buildings, and causing the extent of one or two of them to be cleared. Of these the theatre is the most considerable. On a ballustrade which divided the orchestra from the stage was found a row of statues; and, on each side of the pulpitum, the equestrian figure of a person of the Nonia family. They are now placed under porticos of the palace; and from the great rarity of equestrian statues in marble would be very valuable objects, were their workmanship even less excellent than it is: one of them in particular is a very fine piece of sculpture. Since the king of Spain left Naples, the digging has been continued, but with less spirit and expenditure: indeed the collection of curiosities brought out of Herculaneum and Pompeii is already so considerable, that a relaxation of zeal and activity becomes excusable. They are now arranged in a wing of the palace; and consist not only of statues, busts, altars, inscriptions, and other ornamental appendages of opulence and luxury; but also comprehend an entire assortment of the domestic, musical, and surgical instruments used by the ancients; tripods of elegant form and exquisite execution, lamps in endless variety, vases and basons of noble dimensions, chandeliers of the most beautiful shapes, pateras and other appurtenances of sacrifice, looking-glasses of polished metal, coloured glass so hard, clear, and well stained, as to appear emeralds, sapphires, and other precious stones; a kitchen completely fitted up with copper-pans lined with silver, kettles, cisterns for heating water, and every utensil necessary for culinary purposes; specimens of various sorts of combustibles, retaining their form though burnt to a cinder; corn, bread, fish, oil, wine, and flour: a lady's toilet, fully furnished with combs, thimbles, rings, paint, earrings, &c. Among the statues, which are numerous, connoisseurs allow the greatest share of merit to a Mercury and a sleeping faun: the busts fill several rooms; but very few of the originals whom they were meant to imitate are known. The floors are paved with ancient Mosaic. Few rare medals have been found in these ruins; the most curious is a gold medallion of Augustus struck in Sicily in the 15th year of his reign. The fresco paintings, which, for the sake of preservation, have been torn off the walls and framed and glazed, are to be seen in another part of the palace.

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"The elegance of the attitudes, and the infinite variety of the subjects (Mr Swinburne observes), stamp them as performances worthy of the attention of artists and antiquarians; but no pictures yet found are masterly enough to prove that the Greeks carried the art of painting to as great a height of perfection as they did that of statuary. Yet can we suppose those authors incapable of appreciating the merits of an Apelles or a Zeuxis, who with so much critical discernment have pointed out the beauties of the works of a Phidias or a Praxiteles, beauties that we have still an opportunity of contemplating? would they have bestowed equal praises upon both kinds of performances if either of them had been much inferior to the other? I think it is not probable; and we must presume, that the capital productions of the ancient painters, being of more perishable materials than busts and statues, have been destroyed in the fatal disasters that have so often afflicted both Greece and Italy. Herculaneum and Pompeii were but towns of the second order, and not likely to possess the masterpieces of the great artists, which were usually destined to adorn the more celebrated temples, or the palaces of kings and emperors." A more valuable acquisition than bronzes and pictures was thought to be made, when a large parcel of manuscripts was found among the ruins. Hopes were entertained that many works of the classics, which time has deprived us of, were now going to be restored to light, and that a new mine of science was on the point of being opened. But the difficulty of unrolling the burnt parchment, of pasting the fragments on a flat surface, and of decyphering the obscure letters, have proved such obstacles, that very little progress has been made in the work. A priest invented the method of proceeding; but it would require the joint labours of many learned men to carry on so nice and tedious an operation with any success. The plan is dropped; and the manuscripts now lie in dusty heaps, as useless to the learned world as they had been for the preceding seventeen centuries.

HERCULES, in fabulous history, a most renowned Grecian hero, who after death was ranked among the gods, and received divine honours. According to the ancients, there were many persons of the same name. Diodorus mentions three, Cicero six, and some authors extend the number to no less than forty-three. Of all these, one generally called the *Theban Hercules*, is the most celebrated; and to him, as may easily be imagined, the actions of the others have been attributed. He is reported to have been the son of Jupiter by Alcmena (wife to Amphitryon king of Argos), whom Jupiter enjoyed in the shape of her husband while he was absent; and in order to add the greater strength to the child, made that amorous night as long as three. Amphitryon having soon after accidentally killed his uncle and father-in-law Electryon, was obliged to fly to Thebes, where Hercules was born. The jealousy of Juno, on account of her husband's amour with Alcmena, prompted her to destroy the infant. For this purpose she sent two serpents to kill him in the cradle, but young Hercules strangled them both. He was early instructed in the liberal arts, and Castor the son of Tyndarus taught him how to fight, Eurytus how to shoot with a bow and arrows, Autolicus to drive a chariot, Linus to play on the lyre, and Eumolpus to

sing. He, like the rest of his illustrious contemporaries, soon after became the pupil of the centaur Chiron, and under him he perfected and rendered himself the most valiant and accomplished of the age. In the 18th year of his age he resolved to deliver the neighbourhood of mount Cithæron from a huge lion which preyed on the flocks of Amphitryon his supposed father, and which laid waste the adjacent country. He went to the court of Thespius king of Thespiis, who shared in the general calamity; and he received here a tender treatment, and was entertained during 50 days. The 50 daughters of the king became mothers by Hercules during his stay at Thespiis, and some say that it was effected in one night. After he had destroyed the lion of mount Cithæron, he delivered his country from the annual tribute of 100 oxen which it paid to Erginus. Such public services became universally known; and Creon, who then sat on the throne of Thebes, rewarded the patriotic deeds of Hercules by giving him his daughter in marriage, and entrusting him with the government of his kingdom.

Eurystheus, the son of Amphitryon, having succeeded his father, soon became jealous of Hercules; and fearing lest he might by him be deprived of his crown, left no means untried to get rid of him. Of this Hercules was not insensible, because he was perpetually engaging him on some desperate expedition; and therefore went to consult the oracle. But being answered that it was the pleasure of the gods that he should serve Euristheus 12 years, he fell into a deep melancholy, which at last ended in a furious madness; during which, among other desperate actions, he put away his wife Megara, and murdered all the children he had by her. As an expiation of this crime, the king imposed upon him twelve labours surpassing the power of all other mortals to accomplish, which nevertheless our hero performed with great ease. The favours of the gods had indeed completely armed him when he undertook his labours. He had received a coat of armour and helmet from Minerva, a sword from Mercury, a horse from Neptune, a shield from Jupiter, a bow and arrows from Apollo, and from Vulcan a golden cuirass and brazen buskin, with a celebrated club of brass according to the opinion of some writers.

The first labour imposed upon him was the killing of a lion in Nemea, a wood of Achaia; whose hide was proof against any weapon, so that he was forced to seize him by the throat and strangle him. He carried the dead beast on his shoulders to Mycenæ, and ever after clothed himself with the skin. Eurystheus was so astonished at the sight of the beast, and at the courage of Hercules, that he ordered him never to enter the gates of the city when he returned from his expeditions, but to wait for his orders without the walls. He even made himself a brazen vessel into which he retired whenever Hercules returned.—The second labour was to destroy the Lernæan hydra, which had seven heads according to Apollodorus, 50 according to Simonides, and 100 according to Diodorus. This celebrated monster he first attacked with his arrows; but soon after he came to a close engagement, and by means of his heavy club he destroyed the heads of his enemy. This, however, was productive of no advantage; for as soon as one head was beaten to pieces by the club, immediately two sprang up; and the labour

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Hercules. of Hercules would have remained unfinished, had not he commanded his friend Iolas to burn with a hot iron the root of the head which he had crushed to pieces. This succeeded; and Hercules became victorious, opened the belly of the monster, and dipped his arrows in the gall to render the wounds which he gave fatal and incurable.—He was ordered in his third labour to bring alive and unhurt into the presence of Eurystheus a stag, famous for its incredible swiftness, its golden horns, and brazen feet. This celebrated animal frequented the neighbourhood of Cœnoë; and Hercules was employed for a whole year in continually pursuing it: at last he caught it in a trap, or when tired, or, according to others, by slightly wounding it and lessening its swiftness.—The fourth labour was to bring alive to Eurystheus a wild boar which ravaged the neighbourhood of Erymanthus. In this expedition he destroyed the centaurs, and caught the boar by closely pursuing him through the deep snow. Eurystheus was so frightened at the sight of the boar, that, according to Diodorus, he hid himself in his brazen vessel for some days.—In his fifth labour Hercules was ordered to clean the stables of Augeas, where 3000 oxen had been confined for many years.—For his sixth labour he was ordered to kill the carnivorous birds which ravaged the country near the lake Stymphalis in Arcadia.—In his seventh labour he brought alive into Peloponnesus a prodigious wild bull which laid waste the island of Crete.—In his eighth labour he was employed in obtaining the mares of Diomedes, which fed upon human flesh. He killed Diomedes, and gave him to be eat by his mares, which he brought to Eurystheus. They were sent to mount Olympus by the king of Mycenæ, where they were devoured by the wild beasts; or, according to others, they were consecrated to Jupiter, and their breed still existed in the age of Alexander the Great.—For his ninth labour, he was commanded to obtain the girdle of the queen of the Amazons.—In his tenth labour he killed the monster Geryon king of Gades, and brought to Argos his numerous flocks which fed upon human flesh. This was in Iberia or Spain; in the furthest parts of which he erected his two pillars, as the utmost limits of the then known world. These ten labours he achieved, as the fable says, in about eight years. In this last expedition he is likewise affirmed to have killed Antæus, a famous giant of a monstrous size, who, when weary with wrestling or labour, was immediately refreshed by touching the earth. Hercules overcame him in wrestling, and slew him; and after him the tyrant Busiris, in his way through Egypt. This bloody man used to sacrifice all his guests and strangers upon his altars; and designing to have done the same by Hercules, was slain by him, together with all his attendants.—His eleventh labour was the carrying away the Hesperian golden apples kept by a dragon: (See HESPERIDES).—The twelfth and last, and most dangerous of his labours, was to bring upon earth the three-headed dog Cerberus. Descending into hell by a cave on mount Tænarus, he was permitted by Pluto to carry away his friends Theseus and Pirithous, who were condemned to punishment in hell, and Cerberus also was granted to his prayers, provided he made use of no arms but only force to drag him away. Hercules, as

Hercules. some report, carried him back to hell after he had brought him before Eurystheus.

Many other exploits are said to have been performed by Hercules; in particular, he accompanied the Argonauts to Colchis before he delivered himself up to the king of Mycenæ. He assisted the gods in their wars against the giants, and it was through him alone that Jupiter obtained a victory. He conquered Laomedon, and pillaged Troy. When Iole, the daughter of Eurytus king of Œchalia, of whom he was deeply enamoured, was refused to his entreaties, he became the prey of a second fit of insanity, and he murdered Iphitus, the only one of the sons of Eurytus who favoured his addresses to Iole. He was some time after purified of the murder, and his insanity ceased; but the gods persecuted him, and he was visited by a disorder which obliged him to apply to the oracle of Delphi for relief. The coldness with which the Pythia received him irritated him, and he resolved to plunder Apollo's temple and carry away the sacred tripod. Apollo opposed him, and a severe conflict was begun, which nothing but the interference of Jupiter with his thunderbolts could have prevented. He was upon this told by the oracle that he must be sold as a slave, and remain three years in the most abject servitude to recover from his disorder. He complied; and Mercury, by order of Jupiter, conducted him to Omphale, queen of Lydia, to whom he was sold as a slave. Here he cleared all the country from robbers; and Omphale, who was astonished at the greatness of his exploits, married him. Hercules had Agelaus and Lamon by Omphale, from whom Cræsus king of Lydia was descended. He became also enamoured of one of Omphale's female servants, by whom he had Alceus. After he had completed the years of his slavery, he returned to Peloponnesus, where he re-established on the throne of Sparta Tyndarus, who had been expelled by Hippocoon. He became one of Dejanira's suitors, and married her after he had overcome all his rivals. He was obliged to leave Calydon his father-in-law's kingdom, because he had inadvertently killed a man with a blow of his fist; and it was on account of this expulsion that he was not present at the hunting of the Calydonian boar. From Calydon he retired to the court of Ceyx king of Trachinia. The king received him and his wife with great marks of friendship, and purified him of the murder which he had committed at Calydon. Hercules was still mindful that he had once been refused the hand of Iole; he therefore made war against her father Eurytus, and killed him with three of his sons. Iole fell into the hands of her father's murderer, and found that she was loved by Hercules as much as before. She accompanied him on mount Ceta, where he was going to raise an altar and offer a solemn sacrifice to Jupiter. As he had not then the shirt and tunic in which he arrayed himself to offer a sacrifice, he sent Lichas to Trachin to his wife Dejanira, in order to provide himself a proper dress. Dejanira had some time before been attempted by the Centaur Nessus, as he was ferrying her over the river Euenus; and Hercules beholding it from the shore, had given him a mortal wound with an arrow. The monster finding himself dying, advised her to mix some oil with the blood which flowed from his wound, and

Hercules. and to anoint her husband's shirt with it, pretending that it would infallibly secure him from loving any other woman; and she, too well apprised of his inconstancy, had actually prepared the poisoned ointment accordingly.—Lychas coming to her for the garments, unfortunately acquainted her with his having brought away Iole; upon which she, in a fit of jealousy, anointed his shirt with the fatal mixture. This had no sooner touched his body, than he felt the poison diffuse itself through all his veins; the violent pain of which caused him to disband his army, and to return to Trachin. His torment still increasing, he sent to consult the oracle for a cure; and was answered, that he should cause himself to be conveyed to mount Ceta, and there rear up a great pile of wood, and leave the rest to Jupiter. By the time he had obeyed the oracle, his pains being become intolerable, he dressed himself in his martial habit, flung himself upon the pile, and desired the bystanders to set fire to it. Others say that he left the charge of it to his son Philoctetes; who having performed his father's command, had his bow and arrows given him as a reward for his obedience. At the same time Jupiter, to be as good as his word, sent a flash of lightning, which consumed both the pile and the hero; insomuch that Iolæus, coming to take up his bones, found nothing but ashes: from which they concluded, that he was passed from earth to heaven, and joined to the gods. His friends showed their gratitude to his memory by raising an altar where the burning pile had stood. Menœtius the son of Actor offered him a sacrifice of a bull, a wild boar, and a goat, and enjoined the people of Opus yearly to observe the same religious ceremonies. His worship soon became as universal as his fame; and Juno, who had once persecuted him with such fury, forgot her resentment, and gave him her daughter Hebe in marriage. Hercules has received many surnames and epithets, either from the place where his worship was established, or from the labours which he achieved. His temples were numerous and magnificent, and his divinity revered. No dogs or flies ever entered his temple at Rome; and that of Gades, according to Strabo, was always forbidden to women and pigs. The Phœnicians offered quails on his altars, and as it was supposed that he presided over dreams, the sick and infirm were sent to sleep in his temples, that they might receive in their dreams the agreeable presages of their approaching recovery. The white poplar was particularly dedicated to his service.

It is observed, that there are none even of the twelve great gods of antiquity that have so many ancient monuments relating to them as Hercules. The famous statue of Hercules, in the Farnese palace at Rome, is well known to the connoisseurs: this represents him resting after the last of his twelve labours above recited, leaning on his club, and holding the apples of the Hesperides in his hand. In this statue, as in all the other figures of him, he is formed, by the breadth of his shoulders, the spaciousness of his chest, the largeness of his size, and the firmness of his muscles, to express strength and a capacity of enduring great fatigue, which constituted the chief idea of virtue among the ancient heathens. His other attributes are his lion's skin, his club, and his bow.—Hercules is represented by the ancients as an exemplar of virtue;

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however, the *Hercules bibax*, or drunken Hercules, is no uncommon figure; and his amours are described both by the poets and artists. Thus, the Cupids are made to take away his club, and he is exhibited in the posture of bending under a little boy; by which actions we perceive, that he who conquered all difficulties was a slave to love. His children are as numerous as the labours and difficulties which he underwent; and indeed they became so powerful soon after his death, that they alone had the courage to invade all Peloponnesus. See *HERACLIDÆ*.

The apotheosis of Hercules, or the establishment of his altars in the principal cities of Greece, is fixed by *Trasybulus* 29 years before the taking of Troy.

Hercules has been particularly honoured by the Greeks under the name of *Musagetes*, "the conductor of the Muses;" and at Rome under that of *Hercules Musarum*. He is represented on medals with a lyre in his hand; and the reverse is marked with the figure of the nine Muses, with their proper symbols.

HERCULES, in astronomy, one of the constellations of the northern hemisphere.—The stars in the constellation Hercules in Ptolemy's catalogue are 29; in Tycho's, 28; in the Britannic catalogue, 113.

HERCULES's Pillars, in antiquity, a name given to two lofty mountains, situated one on the most southern extremity of Spain, and the other on the opposite part of Africa. They were called by the ancients *Abyla* and *Calpe*. They are reckoned the boundaries of the labours of Hercules; and according to ancient tradition, they were joined together till they were severed by the arm of the hero, and a communication opened between the Mediterranean and Atlantic seas.

HERCYNIA SILVA (anc. geog.), the largest of forests. Its breadth was a journey of nine days to the best traveller. Taking its rise at the limits of the Helvetii, Nemetes, and Rauraci, it run along the Danube to the borders of the Daci and Anartes, a length of 60 days journey, according to Cæsar, who appears to have been well acquainted with its true breadth, seeing it occupied all Lower Germany. It may therefore be considered as covering the whole of Germany; and most of the other forests may be considered as parts of it, though distinguished by particular names: consequently the Hartz, in the duchy of Brunswick, which gave name to the whole, may be considered as one of its parts. The name *Hartz* denotes "resinous," or "pine-trees." By the Greeks it is called *Orcynius*, as a name common to all the forests in Germany; in the same manner as *Hercynius* was the name given by the Romans; and both from the German *Hartz*.

HERD, among hunters, an assemblage of black or fallow beasts in contradistinction to *flock*. See *FLOCK*.—In the hunting language there are various terms used for companies of the divers kinds of game. We say a *herd* of harts or bucks, a *bevy* of roes, a *route* of wolves, a *riches* of martens, &c.

HEREDITAMENTS, whatever moveable things a person may have to himself and his heirs by way of inheritance; and which, if not otherwise bequeathed, descend to him who is next heir, and not to the executor as chattels do.

HEREDITARY, an appellation given to whatever belongs to a family by right of succession from heir to heir.

Hereditary. HEREDITARY is also figuratively applied to good or ill qualities supposed to be transmitted from father to son: thus we say virtue and piety are hereditary qualities in such a family; and that in Italy the hatred of families is hereditary. And indeed the gout, king's evil, madness, &c. may really be hereditary diseases.

HEREDITARY Right, in the British constitution. The grand fundamental maxim upon which the *jus coronæ*, or right of succession to the throne of Britain depends, Sir William Blackstone takes to be this: That the crown is, by common law and constitutional custom, hereditary; and this in a manner peculiar to itself: but that the right of inheritance may from time to time be changed or limited by act of parliament; under which limitations the crown still continues hereditary.

1. The crown is in general hereditary, or descendible to the next heir, on the death or demise of the last proprietor. All regal governments must be either hereditary or elective: and as there is no instance where in the crown of England has ever been asserted to be elective, except by the regicides at the infamous and unparalleled trial of king Charles I. it must of consequence be hereditary. Yet in thus asserting an hereditary right, a *jure divino* title to the throne is by no means intended. Such a title may be allowed to have subsisted under the theocratic establishments of the children of Israel in Palestine: but it never yet subsisted in any other country; save only so far as kingdoms, like other human fabrics, are subject to the general and ordinary dispensations of Providence. Nor indeed have a *jure divino* and an hereditary right any necessary connection with each other; as some have very weakly imagined. The titles of David and Jehu were equally *jure divino* as those of either Solomon or Ahab; and yet David slew the sons of his predecessor, and Jehu his predecessor himself. And when our kings have the same warrant as they had, whether it be to sit upon the throne of their fathers, or to destroy the house of the preceding sovereign, they will then, and not before, possess the crown of England by a right like theirs, immediately derived from heaven. The hereditary right, which the laws of England acknowledge, owes its origin to the founders of our constitution, and to them only. It has no relation to, nor depends upon, the civil laws of the Jews, the Greeks, the Romans, or any other nation upon earth; the municipal laws of one society having no connection with, or influence upon, the fundamental polity of another. The founders of our English monarchy might perhaps, if they had thought proper, have made it an elective monarchy; but they rather chose, and upon good reason, to establish originally a succession by inheritance. This has been acquiesced in by general consent, and ripened by degrees into common law: the very same title that every private man has to his own estate. Lands are not naturally descendible, any more than thrones: but the law has thought proper, for the benefit and peace of the public, to establish hereditary succession in the one as well as the other.

It must be owned, an elective monarchy seems to be the most obvious, and best suited of any to the rational principles of government, and the freedom of human nature: and accordingly we find from history, that, in the infancy and first rudiments of almost every state,

the leader, chief magistrate, or prince, hath usually been elective. And, if the individuals who compose that state could always continue true to first principles, uninfluenced by passion or prejudice, unassailed by corruption, and unawed by violence, elective succession were as much to be desired in a kingdom as in other inferior communities. The best, the wisest, and the bravest man, would then be sure of receiving that crown which his endowments have merited; and the sense of an unbiassed majority would be dutifully acquiesced in by the few who were of different opinions. But history and observation will inform us, that elections of every kind (in the present state of human nature) are too frequently brought about by influence, partiality, and artifice: and, even where the case is otherwise, these practices will be often suspected, and as constantly charged upon the successful, by a splenetic disappointed minority. This is an evil to which all societies are liable; as well those of a private and domestic kind, as the great community of the public, which regulates and includes the rest. But in the former there is this advantage, That such suspicions, if false, proceed no farther than jealousies and murmurs, which time will effectually suppress; and, if true, the injustice may be remedied by legal means, by an appeal to those tribunals to which every member of society has (by becoming such) virtually engaged to submit. Whereas, in the great and independent society, which every nation composes, there is no superior to resort to but the law of nature; no method to redress the infringements of that law, but the actual exertion of private force. As therefore between two nations, complaining of mutual injuries, the quarrel can only be decided by the law of arms; so in one and the same nation, when the fundamental principles of their common union are supposed to be invaded, and more especially when the appointment of their chief magistrate is alleged to be unduly made, the only tribunal to which the complainants can appeal is that of the God of battles, the only process by which the appeal can be carried on is that of a civil and intestine war. An hereditary succession to the crown is therefore now established, in this and most other countries, in order to prevent that periodical bloodshed and misery, which the history of ancient imperial Rome, and the more modern experience of Poland and Germany, may show us are the consequences of elective kingdoms.

2. But, secondly, as to the particular mode of inheritance, It in general corresponds with the feudal path of descents, chalked out by the common law in the succession to landed estates; yet with one or two material exceptions. Like them, the crown will descend lineally to the issue of the reigning monarch; as it did from king John to Richard II. through a regular pedigree of six lineal generations: As in them the preference of males to females, and the right of primogeniture among the males, are strictly adhered to. Thus Edward V. succeeded to the crown; in preference to Richard his younger brother, and Elizabeth his elder sister. Like them, on failure of the male line, it descends to the issue female; according to the ancient British custom remarked by Tacitus, *Solent fæminarum ductu bellare, et sexum in imperiis non discernere*. Thus Mary I. succeeded to Edward VI.; and the line of Margaret queen of Scots, the daughter of Henry VII.

Hereditary. succeeded, on failure of the line of Henry VIII. his son. But among the females, the crown descends by right of primogeniture to the eldest daughter only and her issue; and not, as in common inheritances, to all the daughters at once; the evident necessity of a sole succession to the throne having occasioned the royal law of descents to depart from the common law in this respect: and therefore queen Mary, on the death of her brother, succeeded to the crown alone, and not in partnership with her sister Elizabeth. Again, the doctrine of representation prevails in the descent of the crown, as it does in other inheritances; whereby the lineal descendants of any person deceased stand in the same place as their ancestor, if living, would have done. Thus Richard II. succeeded his grandfather Edward III. in right of his father the black prince; to the exclusion of all his uncles, his grandfather's younger children. Lastly, on failure of lineal descendants, the crown goes to the next collateral relations of the late king; provided they are lineally descended from the blood-royal, that is, from that royal stock which originally acquired the crown. Thus Henry I. succeeded to William II. John to Richard I. and James I. to Elizabeth; being all derived from the Conqueror, who was then the only regal stock. But herein there is no objection (as in the case of common descents) to the succession of a brother, an uncle, or other collateral relation, of the half-blood; that is, where the relationship proceeds not from the same couple of ancestors (which constitutes a kinsman of the whole blood), but from a single ancestor only; as when two persons are derived from the same father, and not from the same mother, or *vice versa*: provided only, that the one ancestor, from whom both are descended, be that from whose veins the blood-royal is communicated to each. Thus Mary I. inherited to Edward VI. and Elizabeth inherited to Mary; all born of the same father, king Henry VIII. but all by different mothers. See the articles CONSANGUINITY, DESCENT, and SUCCESSION.

3. The doctrine of hereditary right does by no means imply an indefeasible right to the throne. No man will assert this, who has considered our laws, constitution, and history, without prejudice, and with any degree of attention. It is unquestionably in the breast of the supreme legislative authority of this kingdom, the king and both houses of parliament, to defeat this hereditary right; and, by particular entails, limitations, and provisions, to exclude the immediate heir, and vest the inheritance in any one else. This is strictly consonant to our laws and constitution; as may be gathered from the expression so frequently used in our statute-book, of "the king's majesty, his heirs, and successors." In which we may observe, that as the word heirs necessarily implies an inheritance or hereditary right generally subsisting in the royal person; so the word *successors*, distinctly taken, must imply that this inheritance may sometimes be broken through; or, that there may be a successor, without being the heir of the king. And this is so extremely reasonable, that without such a power, lodged somewhere, our polity would be very defective. For, let us barely suppose so melancholy a case, as that the heir-apparent should be a lunatic, an idiot, or otherwise incapable of reigning; how miserable would the condition of the

nation be, if he were also incapable of being set aside! —It is therefore necessary that this power should be lodged somewhere; and yet the inheritance and regal dignity would be very precarious indeed, if this power were expressly and avowedly lodged in the hands of the subject only, to be exerted whenever prejudice, caprice, or discontent, should happen to take the lead. Consequently it can nowhere be so properly lodged as in the two houses of parliament, by and with the consent of the reigning king; who, it is not to be supposed, will agree to any thing improperly prejudicial to the rights of his own descendants. And therefore in the king, lords, and commons, in parliament assembled, our laws have expressly lodged it.

4. But, fourthly, However the crown may be limited or transferred, it still retains its descendible quality, and becomes hereditary in the wearer of it. And hence in our law the king is said never to die in his political capacity; though, in common with other men, he is subject to mortality in his natural: because immediately upon the natural death of Henry, William, or Edward, the king survives in his successor. For the right of the crown vests, *eo instanti*, upon his heir; either the *heres natus*, if the course of descent remains unimpeached, or the *heres factus*, if the inheritance be under any particular settlement. So that there can be no interregnum; but, as Sir Matthew Hale observes, the right of sovereignty is fully invested in the successor by the very descent of the crown. And therefore, however acquired, it becomes in him absolutely hereditary, unless by the rules of the limitation it is otherwise ordered and determined: In the same manner as landed estates, to continue our former comparison, are by the law hereditary, or descendible to the heirs of the owner; but still there exists a power, by which the property of those lands may be transferred to another person. If this transfer be made simply and absolutely, the lands will be hereditary in the new owner, and descend to his heir at law: but if the transfer be clogged with any limitations, conditions, or entails, the lands must descend in that channel, so limited and prescribed, and no other. See SUCCESSION.

HEREDITAS JACENS, in Scots law. An estate is said to be in *hereditate jacente*, after the proprietor's death till the heir's entry.

HEREFORD, which in Saxon signifies *the ford of the army*, the capital of Herefordshire in England, situated in W. Long. 2. 35. N. Lat. 52. 6. It is supposed to have risen out of the ruins of Kenchester, in its neighbourhood, which Camden believes to have been the *Ariconium* of Antoninus. It is very pleasantly situated among meadows and corn-fields, and is almost encompassed with rivers. It seems to have owed its rise, or at least its increase, to the building and dedicating a church there to Ethelbert king of the East-Angles, who was murdered in the neighbourhood, and afterwards taken into the catalogue of martyrs; soon after it became a bishop's see, and in consequence of that a considerable place. In 1055 it was sacked, the cathedral destroyed, and its bishop Leofgar carried away captive by Gryffin prince of South-Wales, and Algar, an Englishman, who had rebelled against Edward the Confessor. Harold fortified it with a broad and high rampart; and it appears

Hereford,
Hereford-
shire.

by Doomsday-book, that there were no more than 300 men within and without the wall. A very large and strong castle was built by the Normans along the Wye, and the city walled round. The present stately cathedral was founded in the reign of Henry I. by bishop Reinelm, but enlarged and beautified by his successors. It suffered much in the barons wars; and was often taken and retaken in the war between king Charles I. and the parliament. This city is pretty large, and had once six churches; but two were destroyed in the civil wars. It is not very populous nor well built, many of the houses being old. Its manufactures are gloves and other leathern goods; and its corporation consists of a mayor, six aldermen, a high-steward, deputy-steward, and town-clerk, who have a sword-bearer, and four serjeants at mace. Each of the companies enjoys distinct laws and privileges by their charter, and each has its hall. The cathedral, which was built in 1050, and destroyed by the Welsh in 1060, but rebuilt in the reign of the Conqueror, or, as some say, in that of Henry I. is a beautiful and magnificent structure, but being greatly decayed, part of it was destroyed by the fall of the tower in September 1786, and the spire on another tower was taken down to be rebuilt at the same time. Here is an hospital well endowed for 16 poor people; and two charity-schools, one for 60 boys, the other for 40 girls. The chapter-house, which was once a very elegant building, built about the year 1079, is now in ruins. Here were formerly two or three priories. Almost the only drink here is cyder, which is both cheap and good, the very hedges in the country being planted with apple-trees. The city gave long the title of *earl* to the noble family of the Bohuns; then of *duke* to Henry of Lancaster, afterwards Henry IV. king of England; after him, of *earl* to Stafford earl of Buckingham; then of *viscount* to D'Evereux earl of Essex, which a collateral branch of this family still enjoys, and is thereby the premier viscount of England.

HEREFORDSHIRE, a county of England, nearly of a circular form, bounded on the east by Worcester and Gloucester, on the south by Monmouthshire, on the west by Radnorshire and Brecknockshire, and on the north by Shropshire. Its length from north to south is 46 miles, its breadth from east to west 40, and its circumference 220. It contains 8 market towns, 87 vicarages, 176 parishes, and 391 villages, 15,000 houses, and 97,600 inhabitants. It is divided into 11 hundreds, and sends eight members to parliament, namely, two knights for the shire, and two for each of the following towns, Hereford, Lempster or Leominster, and Weobly.

The air of this county is allowed to be as pleasant, sweet, and wholesome, as that of any other in England, there being nothing either in the soil or situation to render it otherwise. The soil throughout is excellent, and inferior to none, either for grain, fruit, or pasture, supplying the inhabitants plentifully with all the necessaries of life: but that by which it is distinguished from most others, is its fruit, especially apples, of which it produces such quantities, that the cyder made of them is not only sufficient for their own consumption, though it is their ordinary drink, but also in a great measure for that of London and other parts. That in particular which is made from the apple called

redstreak, is much admired, and has a body almost equal to that of white-wine. The county is well supplied with wood and water; for, besides lesser streams, there are the rivers Frome, Loden, Lug, Wye, Wadel, Arrow, Dare, and Monow; the last of which is large, and all of them are well stored with fish, particularly the Wye, which breeds salmon. It lies in the diocese of Hereford, and Oxford circuit.

HERENHAUSEN, a palace of Germany near Hanover, belonging to the king of Great Britain. Here are lodgings for all the court; and a garden of vast extent, in which are fine waterworks, a labyrinth, and many other curiosities worthy the observation of a traveller.

HERENTHALS, a town of Brabant in the Austrian Netherlands, in the quarter of Antwerp; seated on the river Nethe, in E. Long. 4. 51. N. Lat. 51. 9.

HERESY, in law, an offence against Christianity, consisting in a denial of some of its essential doctrines, publicly and obstinately avowed; being defined, "*sententia rerum divinarum humano sensu excogitata, palam docta et pertinaciter defensa.*" And here it must be acknowledged that particular modes of belief or unbelief, not tending to overturn Christianity itself, or to sap the foundations of morality, are by no means the object of coercion by the civil magistrate. What doctrines shall therefore be adjudged heresy, was left by our old constitution to the determination of the ecclesiastical judge; who had herein a most arbitrary latitude allowed him. For the general definition of an heretic given by Lyndewode, extends to the smallest deviations from the doctrines of the holy church: "*hereticus est qui dubitat de fide catholica, et qui negligit servare ea, quæ Romana ecclesia statuit, seu servare decreverat.*" Or, as the statute 2 Hen. IV. c. 15. expresses it in English, "teachers of erroneous opinions, contrary to the faith and blessed determinations of the holy church." Very contrary this to the usage of the first general councils, which defined all heretical doctrines with the utmost precision and exactness. And what ought to have alleviated the punishment, the uncertainty of the crime, seems to have enhanced it in those days of blind zeal and pious cruelty. It is true, that the sanctimonious hypocrisy of the canonists went at first no farther than enjoining penance, excommunication, and ecclesiastical deprivation, for heresy; tho' afterwards they proceeded boldly to imprisonment by the ordinary, and confiscation of goods *in pios usus*. But in the mean time they had prevailed upon the weakness of bigotted princes to make the civil power subservient to their purposes, by making heresy not only a temporal, but even a capital, offence: the Romish ecclesiastics determining, without appeal, whatever they pleased to be heresy, and shifting off to the secular arm the odium and drudgery of executions; with which they themselves were too tender and delicate to intermeddle. Nay, they pretended to intercede and pray, on behalf of the convicted heretic, *ut citra mortis periculum sententia circa eum moderetur*: well knowing that at the same time they were delivering the unhappy victim to certain death. Hence the capital punishments inflicted on the ancient Donatists and Manichæans by the emperors Theodosius and Justinian: hence also the constitution of the emperor Frederic mentioned by Lyndewode, adjudging all persons with-

out:

Heresy. out distinction to be burnt with fire who were convicted of heresy by the ecclesiastical judge. The same emperor, in another constitution, ordained, that if any temporal lord, when admonished by the church, should neglect to clear his territories of heretics within a year, it should be lawful for good catholics to seize and occupy the lands, and utterly to exterminate the heretical possessors. And upon this foundation was built that arbitrary power, so long claimed and so fatally exerted by the Pope, of disposing even of the kingdoms of refractory princes to more dutiful sons of the church. The immediate event of this constitution was something singular, and may serve to illustrate at once the gratitude of the holy see, and the just punishment of the royal bigot; for, upon the authority of this very constitution, the pope afterwards expelled this very emperor Frederic from his kingdom of Sicily, and gave it to Charles of Anjou.

Christianity being thus deformed by the dæmon of persecution upon the continent, we cannot expect that our own island should be entirely free from the same scourge. And therefore we find among our ancient precedents a writ *de heretico comburendo*, which is thought by some to be as ancient as the common law itself. However, it appears from thence, that the conviction of heresy by the common law was not in any petty ecclesiastical court, but before the archbishop himself in a provincial synod; and that the delinquent was delivered over to the king to do as he should please with him: so that the crown had a controul over the spiritual power, and might pardon the convict by issuing no process against him; the writ *de heretico comburendo* being not a writ of course, but issuing only by the special direction of the king in council.

But in the reign of Henry IV. when the eyes of the Christian world began to open, and the seeds of the Protestant religion (though under the opprobrious name of *lollardy*) took root in this kingdom; the clergy, taking advantage from the king's dubious title to demand an increase of their own power, obtained an act of parliament, which sharpened the edge of persecution to its utmost keenness. For, by that statute, the diocesan alone, without the intervention of a synod, might convict of heretical tenets; and unless the convict abjured his opinions, or if after abjuration he relapsed, the sheriff was bound *ex officio*, if required by the bishop, to commit the unhappy victim to the flames, without waiting for the consent of the crown. By the statute 2 Hen. V. c. 7. *lollardy* was also made a temporal offence, and indictable in the king's courts; which did not thereby gain an exclusive, but only a concurrent, jurisdiction with the bishop's consistory.

Afterwards, when the final reformation of religion began to advance, the power of the ecclesiastics was somewhat moderated; for though what heresy *is*, was not then precisely defined, yet we are told in some points what it *is not*: the statute 25 Hen. VIII. c. 14. declaring, that offences against the see of Rome are not heresy; and the ordinary being thereby restrained from proceeding in any case upon mere suspicion; that is, unless the party be accused by two credible witnesses, or an indictment of heresy be first previously found in the king's courts of common law. And yet the spirit of persecution was not yet abated, but only diverted into a lay channel. For in six years afterwards, by

statute 31 Hen. VIII. c. 14. the bloody law of the six articles was made, which established the six most contested points of popery, transubstantiation, communion in one kind, the celibacy of the clergy, monastic vows, the sacrifice of the mass, and auricular confession; which points were "determined and resolved by the most godly study, pain, and travail of his majesty: for which his most humble and obedient subjects, the lords *spiritual* and temporal and the commons, in parliament assembled, did not only render and give unto his highness their most high and hearty thanks;" but did also enact and declare all oppugners of the first to be heretics, and to be burnt with fire; and of the five last to be felons, and to suffer death. The same statute established a new and mixed jurisdiction of clergy and laity for the trial and conviction of heretics; the reigning prince being then equally intent on destroying the supremacy of the bishops of Rome, and establishing all other their corruptions of the Christian religion.

Without perplexing this detail with the various repeals and revivals of these sanguinary laws in the two succeeding reigns, let us proceed to the reign of queen Elizabeth; when the reformation was finally established with temper and decency, unsullied with party-rancour, or personal caprice and resentment. By statute 1 Eliz. c. 1. all former statutes relating to heresy are repealed, which leaves the jurisdiction of heresy as it stood at common law; *viz.* as to the infliction of common censures, in the ecclesiastical courts; and in case of burning the heretic, in the provincial synod only. Sir Matthew Hale is indeed of a different opinion, and holds that such power resided in the diocesan also; tho' he agrees, that in either case the writ *de heretico comburendo* was not demandable of common right, but grantable or otherwise merely at the king's discretion. But the principal point now gained was, that by this statute a boundary is for the first time set to what shall be accounted heresy; nothing for the future being to be so determined, but only such tenets, which have been heretofore so declared, 1. By the words of the canonical scriptures; 2. By the first four general councils, or such others as have only used the words of the holy Scriptures; or, 3. Which shall hereafter be so declared by the parliament, with the assent of the clergy in convocation. Thus was heresy reduced to a greater certainty than before; though it might not have been the worse to have defined it in terms still more precise and particular: as a man continued still liable to be burnt, for what perhaps he did not understand to be heresy, till the ecclesiastical judge so interpreted the words of the canonical scriptures.

For the writ *de heretico comburendo* remained still in force; and we have instances of its being put in execution upon two Anabaptists in the seventeenth of Elizabeth, and two Arians in the ninth of James I. But it was totally abolished, and heresy again subjected only to ecclesiastical correction, *pro salute animæ*, by virtue of the statute 29 Car. II. c. 9. : for, in one and the same reign, our lands were delivered from the slavery of military tenures; our bodies from arbitrary imprisonment by the *habeas corpus* act; and our minds from the tyranny of superstitious bigotry, by demolishing this last badge of persecution in the English law.

Every thing is now as it should be, with respect to the spiritual cognizance, and spiritual punishment of heresy:.

Heresy.

Heretic
||
Heriot.

heresy : unless perhaps that the crime ought to be more strictly defined, and no prosecution permitted, even in the ecclesiastical courts, till the tenets in question are by proper authority previously declared to be heretical. Under these restrictions, it seems necessary for the support of the national religion, that the officers of the church should have power to censure heretics ; yet not to harass them with temporal penalties, much less to exterminate or destroy them. The legislature hath indeed thought it proper, that the civil magistrate should again interpose, with regard to one species of heresy, very prevalent in modern times ; for by statute 9 & 10 W. III. c. 32. if any person educated in the Christian religion, or professing the same, shall by writing, printing, teaching, or advised speaking, deny any one of the persons in the holy Trinity to be God, or maintain that there are more gods than one, he shall undergo the same penalties and incapacities which were just now mentioned to be inflicted on apostasy by the same statute.

HERETIC, a general name for all such persons under any religion, but especially the Christian, as profess or teach religious opinions contrary to the established faith, or to what is made the standard of orthodoxy. See HERESY.

HERETOCHS, among our Saxon ancestors, signified the same with dukes or ducēs, denoting the commanders or leaders of their armies.

It appears, from Edward the Confessor's laws, that the military force of this kingdom was in the hands of the dukes or heretochs, who were constituted through every province and county in the kingdom, being selected out of the principal nobility, and such as were most remarkable for being *sapientes, fideles, & animosi*. Their duty was to lead and regulate the English armies, with a very unlimited power ; and because of their great power, they were elected by the people in their full assembly, or folk-mote, in the same manner as sheriffs were elected.

HERFORDEN, or HERWARDEN, a free and imperial town of Germany, in the circle of Westphalia, and capital of the county of Ravensberg. Here is a famous nunnery belonging to the Protestants of the confession of Augsburg, whose abbess is a princess of the empire, and has a voice and place in the diet. It is seated on the river Aa. E. Long. 8. 47. N. Lat. 52. 12.

HERGUNDT, a town of Upper Hungary, remarkable for its rich mines of vitriol. Those who work in the mines have built a subterraneous town, which has a great number of inhabitants. E. Long. 18. 15. N. Lat. 48. 30.

HERIOT, in law, a customary tribute of goods and chattels, payable to the lord of the fee on the decease of the owner of the land. See TENURE.

Heriot is of two sorts—viz. 1. Heriot-custom, where heriots have been paid time out of mind by custom, after the death of a tenant for life. In some places, there is a customary composition in money, as 10 or 20 shillings in lieu of a heriot, by which the lord and tenant are both bound, if it be an undisputably ancient custom ; but a new composition of this sort will not bind the representatives of either party. 2. Heriot-service, when a tenant holds by such service to pay heriot at the time of his death ; which service is expressed in the deed of feoffment.—For this latter the lord shall dis-

train ; and for the other he shall seize, and not distrain. If the lord purchase part of the tenancy, heriot-service is extinguished ; but it is not so of heriot-custom.

HERISSON, in fortification, a beam armed with a great number of iron spikes with their points outwards, and supported by a pivot on which it turns. These serve as a barrier to block up any passage, and are frequently placed before the gates, and more especially the wicket-doors, of a town or fortress, to secure those passages which must of necessity be often opened and shut.

HERITABLE RIGHTS, in Scots law, signify all rights affecting lands, houses, &c. or any immoveable subject.

HERITAGE, in Scots law, lands, houses, or any immoveable subject, in contradistinction to moveables or moveable subjects. It also sometimes signifies such immoveable property as a person succeeds to as heir to another, in contradistinction to that which he himself purchases or acquires in any other manner, called *conquest*.

HERMÆA, in antiquity, ancient Greek festivals in honour of the god Hermes or Mercury. One of these was celebrated by the Pheneatæ in Arcadia ; a second by the Cyllenians in Elis ; and a third by the Tanagræans, where Mercury was represented with a ram upon his shoulder, because he was said to have walked thro' the city in that posture in time of a plague, and to have cured the sick ; in memory of which, it was customary at this festival for one of the most beautiful youths in the city to walk round the walls with a ram upon his shoulder.—A fourth festival of the same name was observed in Crete, when it was usual for the servants to sit down at the table while their masters waited ; a custom which was also observed at the Roman Saturnalia.

HERMAN (Paul), a famous botanist in the 17th century, was born at Hall in Saxony. He practised physic in the isle of Ceylon, and was afterwards made professor of botany at Leyden, where he died in 1695. He wrote a catalogue of the plants in the public garden at Leyden, and a work intitled *Floræ Lugduno-Batavæ flores*.

HERMANN (James), a learned mathematician of the academy at Berlin, and a member of the academy of sciences at Paris, was born at Basil in 1678. He was a great traveller, and for six years was professor of mathematics at Padua. He afterwards went to Muscovy, being invited thither by the Czar in 1724. At his return to his native country, he was made professor of morality and natural law at Basil ; and died there in 1733. He wrote several mathematical works.

HERMANNIA, in botany : A genus of the pentandria order, belonging to the monodelphia class of plants ; and in the natural method ranking under the 37th order, *Columnifera*. The capsule is quinquelocular ; the petals at the base are semitubulated and oblique.

Species. 1. The *lavendulifolia*, hath a shrubby stalk and slender branches, very bushy, about a foot and an half high, small, spear-shaped, obtuse and hairy leaves, with clusters of small yellow flowers along the sides of the branches, continuing from June to Autumn. 2. The *althæifolia* hath a shrubby stalk, and soft woolly branches, growing two feet high, with numerous yellow flowers in loose spikes growing at the end of the branches,

Herisson
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Hermannia.

Herman-
stadt.
||
Hermaphrodite.

branches, and making their appearance in July. 3. The *grossularifolia* hath a shrubby stalk and spreading branches, growing three or four feet high, with bright yellow flowers coming out in great numbers at the ends of all the shoots and branches in April or May. 4. The *alnifolia* hath a shrubby stalk and branches growing irregularly four or five feet high, with pale yellow flowers in short spikes from the sides and ends of the branches, appearing in April or May. 3. The *hyssopifolia* hath a shrubby upright stalk, branching out laterally six or seven feet high, with pale yellow flowers in clusters from the sides of the branches, appearing in May and June. There are 14 other species.

Culture. All these plants are natives of Africa, and therefore must be kept in a green-house during the winter in this country. They are propagated by cuttings of their young shoots, which may be planted in pots of rich earth any time from April to July.

HERMANSTADT, a handsome, populous, and strong town of Hungary, capital of Transilvania, with a bishop's see. It is the residence of the governor of the province; and is seated on the river Ceben, in E. Long. 23. 40. N. Lat. 46. 25.

HERMANT (Godfrey), a learned doctor of the Sorbonne, born at Beauvais in 1617. He wrote many excellent works; the principal of which are, 1. The lives of St Athanasius, St Basil, St Gregory Nazianzen, St Chrysostom, and St Ambrose. 2. Four pieces in defence of the rights of the university of Paris against the Jesuits. 3. A French translation of St Chrysostom's treatise of Providence, and St Basil's Ascetics. 4. Extracts from the councils; published after his death, under the title of *Clavis disciplina ecclesiastica*. He died suddenly at Paris in 1690.

HERMAPHRODITE, is generally understood to signify a human creature possessed of both sexes, or who has the parts of generation both of male and female. The term however is applied also to other animals, and even to plants.—The word is formed of the Greek *Ερμαφροδιτος*, a compound of *Ερμης* Mercury, and *Αφροδιτη* Venus; *q. d.* a mixture of Mercury and Venus, *i. e.* of male and female. For it is to be observed, *Hermaphroditus* was originally a proper name, applied by the heathen mythologists to a fabulous deity, whom some represent as a son of *Hermes*, Mercury, and *Aphrodite*, Venus; and who, being desperately in love with the nymph *Salmasis*, obtained of the gods to have his body and hers united into one. Others say, that the god *Hermaphroditus* was conceived as a composition of Mercury and Venus; to exhibit the union between eloquence, or rather commerce, whereof Mercury was god, with pleasure, whereof Venus was the proper deity. Lastly, others think this junction intended to show that Venus (pleasure) was of both sexes; as, in effect, the poet *Calvus* call Venus a god.

Pollentemque Deum Venerem.

As also Virgil, *Æneid.* lib. ii.

*Discedo, ac ducente Deo flammam inter et boves
Expeditur*

M. Spon observes, *Hesychius* calls Venus *Aphroditos*; and *Theophrastus* affirms, that *Aphroditos*, or Venus, is *Hermaphroditus*; and that in the island of Cyprus she has a statue, which represents her with a beard like a man.—The Greeks also call *hermaphrodites* *ανδρογυναι*

androgyni, q. d. men-women. See the article ANDROGYNES.

Hermaphrodite.

In a treatise by Mr Hunter, in the 69th volume of the Philosophical Transactions, hermaphrodites are divided into *natural* and *unnatural* or monstrous. The first belongs to the more simple orders of animals, of which there are a much greater number than of the more perfect. The unnatural takes place in every tribe of animals having distinct sexes, but is more common in some than in others. The human species, our author imagines, has the fewest; never having seen them in that species, nor in dogs; but in the horse, sheep, and black cattle, they are very frequent.

From Mr Hunter's account, however, it does not appear that such a creature as a perfect hermaphrodite has ever existed. All the hermaphrodites which he had the opportunity of seeing had the appearance of females, and were generally saved as such. In the horse they are very frequent; and in the most perfect of this kind he ever saw, the testicles had come down out of the abdomen into the place where the udder should have been, and appeared like an udder, not so pendulous as the scrotum in the male of such animals. There were also two nipples, of which horses have no perfect form; being blended in them with the sheath or prepuce, of which there was none here. The external female parts were exactly similar to those of a perfect female; but instead of a common-sized clitoris, there was one about five or six inches long; which when erect, stood almost directly backwards.

A foal ass very similar to the above was killed, and the following appearances were observed on dissection. The testicles were not come down as in the former, possibly because the creature was too young. It had also two nipples; but there was no penis passing round the pubes to the belly, as in the perfect male ass. The external female parts were similar to those of the she-ass. Within the entrance of the vagina was placed the clitoris; but much longer than that of a true female, being about five inches long. The vagina was open a little farther than the opening of the urethra into it, and then became obliterated; from thence, up to the fundus of the uterus, there was no canal. At the fundus of the common uterus it was hollow, or had a cavity in it, and then divided into two, viz. a right and a left, called the *horns* of the uterus, which were also pervious. Beyond the termination of the two horns were placed the ovaria, as in the true female; but the Fallopian tubes could not be found.—From the broad ligaments, to the edges of which the horns of the uterus and ovaria were attached, there passed towards each groin a part similar to the round ligaments in the female, which were continued into the rings of the abdominal muscles; but with this difference, that there were continued with them a process or theca of the peritonæum, similar to the tunica vaginalis communis in the male ass; and in these thecæ were found the testicles, but no vasa deferentia could be observed passing from them.

In most species of animals, the production of hermaphrodites appears to be the effect of chance; but in the black cattle it seems to be an established principle of their propagation. It is a well-known fact, and, as far as hath yet been discovered, appears

Hermaphrodite.

to be universal, that when a cow brings forth two calves, one of them a bull, and the other a cow to appearance, the cow is unfit for propagation, but the bull-calf becomes a very proper bull. They are known not to breed; they do not even show the least inclination for the bull, nor does the bull ever take the least notice of them. Among the country people in England, this kind of calf is called a *free-martin*; and this singularity is just as well known among the farmers as either cow or bull. When they are preserved, it is for the purposes of an ox or spayed heifer; viz. to yoke with the oxen, or fatten for the table. They are much larger than either the bull or the cow, and the horns grow longer and bigger, being very similar to those of an ox. The bellow of a free-martin is also similar to that of an ox, and the meat is similar to that of the ox or spayed heifer, viz. much finer in the fibre than either the bull or cow; and they are more susceptible of growing fat with good food. By some they are supposed to exceed the ox and heifer in delicacy of taste, and bear a higher price at market; this, however, does not always hold, and Mr Hunter gives an instance of the contrary. The Romans, who called the bull *taurus*, spoke also of *taura* in the feminine gender different from cows. Stephens observes, that it was thought they meant by this word *barren cows*, who obtained the name because they did not conceive any more than bulls. He also quotes a passage from Columella, *lib. vi. cap. 22*. "And, like the *taura*, which occupy the place of fertile cows, should be rejected or sent away." He likewise quotes Varro, *De re rustica*, *lib. ii. cap. 5*. "The cow which is barren is called *taura*." From which we may reasonably conjecture, that the Romans had not the idea of the circumstances of their production.

Of these creatures Mr Hunter dissected three, and the following appearances were observed in the most perfect of them.—The external parts were rather smaller than in the cow. The vagina passed on as in the cow to the opening of the urethra, and then it began to contract into a small canal, which passed on to the division of the uterus into the two horns; each horn passing along the edge of the broad ligament laterally towards the ovaria. At the termination of these horns were placed both the ovaria and testicles, both of which were nearly about the size of a small nutmeg. No Fallopian tubes could be found. To the testicles were *vasa deferentia*, but imperfect. The left one did not come near the testicle; the right only came close to it, but did not terminate in the body called *epididymis*. They were both pervious, and opened into the vagina near the opening of the urethra.—On the posterior surface of the bladder, or between the uterus and bladder, were the two bags called the *vesiculæ seminales* in the male, but much smaller than what they are in the bull: the ducts opened along with the *vasa deferentia*.

Concerning hermaphrodites of the human species, much has been written, and many laws enacted about them in different nations; but the existence of them is still disputed. Dr Parsons has given us a treatise on the subject, in which he endeavours to explode the notion as a vulgar error. According to him, all the hermaphrodites that have appeared, were only women whose clitoris from some cause or other was overgrown;

N^o 152.

and, in particular, that this was the case with an Angola woman shown at London as an hermaphrodite some time ago.

Hermaphrodite.

Among the reptile tribe, indeed, such as worms, snails, leeches, &c. hermaphrodites are very frequent. In the memoirs of the French academy, we have an account of this very extraordinary kind of hermaphrodites, which not only have both sexes, but do the office of both at the same time. Such are earth-worms, round-tailed worms found in the intestines of men and horses, land-snails, and those of fresh waters, and all the sorts of leeches. And, as all these are reptiles, and without bones, M. Poupert concludes it probable, that all other insects which have these two characters are also hermaphrodites.

The method of coupling practised in this class of hermaphrodites, may be illustrated in the instance of earth-worms. These little creatures creep, two by two, out of holes proper to receive them, where they dispose their bodies in such a manner, as that the head of the one is turned to the tail of the other. Being thus stretched lengthwise, a little conical button or papilla is thrust forth by each, and received into an aperture of the other. These animals, being male in one part of the body, and female in another, and the body flexible withal, M. Homberg does not think it impossible but that an earth-worm may couple with itself, and be both father and mother of its young; an observation which, to some, appears highly extravagant!

Among the insects of the soft or boneless kind, there are great numbers indeed, which are so far from being hermaphrodites, that they are of no sex at all. Of this kind are all the caterpillars, maggots, and worms, produced of the eggs of flies of all kinds: but the reason of this is plain; these are not animals in a perfect state, but disguises under which animals lurk. They have no business with the propagating of their species, but are to be transformed into animals of another kind, by the putting off their several coverings, and then only they are in their perfect state, and therefore then only show the differences of sex, which are always in the distinct animals, each being only male or female. These copulate, and their eggs produce these creatures, which show no sex till they arrive at that perfect state again.

HERMAPHRODITE *Flowers*, in botany. These are so called by the sexualists on account of their containing both the antheræ and stigma, the supposed organs of generation, within the same calyx and petals. Of this kind are the flowers of all the classes in Linnæus's sexual method, except the classes *monœcia* and *diœcia*; in the former of which, male and female flowers are produced on the same root; in the latter, in distinct plants from the same seed.—In the class *polygamia*, there are always hermaphrodite flowers mixed with male or female, or both, either on the same or distinct roots. In the plantain-tree the flowers are all hermaphrodite; in some, however, the antheræ or male organ, in others the stigma or female organ, proves abortive. The flowers in the former class are styled *female hermaphrodites*; in the latter, *male hermaphrodites*.—Hermaphrodites are thus as frequent in the vegetable kingdom as they are rare and scarce in the animal one.

Hermas,
Hermes.

HERMAS, an ecclesiastical author of the first century; and, according to Origen, Eusebius, and Jerome, the same whom St Paul salutes in the end of his epistle to the Romans. He wrote a book in Greek some time before Domitian's persecution, which happened in the year 95. This work is intitled *The Pastor*, from his representing an angel speaking to him in it under the form of a shepherd. The Greek text is lost, but a very ancient Latin version of it is still extant. Some of the fathers have considered this book as canonical. The best edition of it is that of 1698, where it is to be found among the other apostolical fathers, illustrated with the notes and corrections of Cotelierius and Le Clerc. With them it was translated into English by Archbishop Wake, the best edition of which is that of 1710.

HERMAS, in botany: A genus of the monoecia order, belonging to the polygamia class of plants. The umbel in the hermaphrodite is terminal; there is an universal involucre and partial ones. The rays of the small umbels are lobed; the central one flower-bearing; there are five petals, and as many barren stamens; the seeds are two-fold and suborbicular. In the male the lateral umbels have universal and partial involucre; the small umbels are many-flowered; there are five petals, and five fertile stamens.

HERMES, or **HERMA**, among antiquaries, a sort of square or cubical figure of the god Mercury, usually made of marble, though sometimes of brass or other materials, without arms or legs, and planted by the Greeks and Romans in their cross-ways.

Servius gives us the origin thereof, in his comment on the eighth book of the *Æneid*. Some shepherds, says he, having one day caught Mercury, called by the Greeks *Hermes*, asleep on a mountain, cut off his hands; from which he, as well as the mountain where the action was done, became denominated Cyllenius, from *κυλλος* maimed: and thence, adds Servius, it is that certain statues without arms are denominated *Hermeses* or *Herma*. But this etymology of the epithet of Cyllenius contradicts most of the other ancient authors; who derive it hence, that Mercury was born at Cyllene, a city of Elis, or even on the mountain Cyllene itself, which had been thus called before him.

Suidas gives a moral explication of this custom of making statues of Mercury without arms. The *Hermeses*, says he, were statues of stone placed at the vestibules or porches of the doors and temples at Athens; for this reason, that as Mercury was held the god of speech and of truth, square and cubical statues were peculiarly proper; having this in common with truth, that on what side soever they are viewed, they always appear the same.

It must be observed, that Athens abounded more than any other place in *Hermeses*: there were abundance of very signal ones in divers parts of the city, and they were indeed one of the principal ornaments of the place. They were also placed in the high-roads and cross-ways, because Mercury, who was the courier of the gods, presided over the highways; whence he had his surname of Trivius, from *trivium*; and that of Viacus, from *via*.

From Suidas's account, above cited, it appears, that the terms *termini*, used among us in the door-cases, balconies, &c. of our buildings, take their origin from

these Athenian *Hermeses*; and that it was more proper to call them *hermetes* than *termini*, because, though the Roman *termini* were square stones, whereon a head was frequently placed, yet they were rather used as landmarks and mere stones than as ornaments of building. See the articles *MERCURY* and *THOTH*.

HERMETIC, or *HERMETICAL-Art*, a name given to chemistry, on a supposition that Hermes Trismegistus was the inventor thereof, or that he excelled therein. See *THOTH*.

HERMETICAL Philosophy is that which undertakes to solve and explain all the phenomena of nature, from the three chemical principles, salt, sulphur, and mercury.

HERMETICAL Physic, or *Medicine*, is that system or hypothesis in the art of healing, which explains the causes of diseases, and the operations of medicine, on the principles of the hermetical philosophy, and particularly on the system of alkali and acid.

HERMETICAL Seal, a manner of stopping or closing glass vessels, for chemical operations, so very accurately, that nothing can exhale or escape, not even the most subtle spirits. It is performed by heating the neck of the vessel in the flame of a lamp till it be ready to melt, and then with a pair of pincers twisting it close together. This they call putting on *Hermes's seal*. There are also other ways of sealing vessels hermetically; viz. by stopping them with a plug or stopple of glass, well luted into the neck of the vessel; or, by turning another ovum philosophicum upon that wherein the matter is contained.

HERMHARPOCRATES, or **HERMARPOCRATES**, in antiquity, a deity, or figure of a deity, composed of Mercury, and Harpocrates the god of Silence.

M. Spon gives us a *hermharpocrates* in his *Rech. Cur. de l'Antiquité*, p. 98. fig. 15. having wings on his feet like Mercury, and laying his finger on his mouth like Harpocrates. It is probable they might mean, by this combination, that silence is sometimes eloquent.

HERMIANI, or **HERMIATITÆ**, a sect of heretics in the second century, thus called from their leader Hermias. They were also denominated *Seleuciani*.

One of their distinguishing tenets was, that God is corporeal. Another, that Jesus Christ did not ascend into heaven with his body, but left it in the sun.

HERMIONE (anc. geog.), a considerable city of Argolis. It was in ruins (except a few temples) in the time of Pausanias; who says that the new city was at the distance of four stadia from the promontory on which the temple of Neptune stood. It gave name to the Sinus Hermionicus, a part of the Sinus Argolicus.

HERMIT, or **EREMIT**, *Eremita*, a devout person retired into solitude, to be more at leisure for prayer and contemplation, and to disencumber himself of the affairs of this world.—The word is formed from the Greek *ερημος*, desert or wilderness; and, according to the etymology, should rather be wrote *Eremit*.

Paul surnamed the *Hermit*, is usually reckoned the first hermit; though St Jerome at the beginning of the life of that saint says, it is not known who was the first.—Some go back to John the Baptist, others to Elias: others make St Anthony the founder of the eremitical life; but others think that he only rekindled

Hermetic
||
Hermit.

Hermit
||
Hermogenians.

led and heightened the fervour thereof, and hold that the disciples of that saint owned St Paul of Thebes for the first that practised it. The persecutions of Decius and Valerian are supposed to have been the occasion.—Several of the ancient hermits, as St Anthony, &c. though they lived in deserts, had yet numbers of religious accompanying them.

There are also various orders and congregations of religious distinguished by the title of *hermits*; as, hermits of St Augustine, of St John Baptist, of St Jerom, of St Paul, &c.

HERMIT (Gaytier Peter the), a French officer of Amiens in Picardy, who quitted the military profession, and commenced hermit and pilgrim. Unfortunately, he travelled to the Holy Land about the year 1093; and making a melancholy recital of the deplorable situation of a few Christians in that country to Pope Urban II. and at the same time enthusiastically lamenting that Infidels should be in possession of the famous city where the Author of Christianity first promulgated his sacred doctrines, Urban gave him a fatal commission to excite all Christian princes to a general war against the Turks and Saracens the possessors of the Holy Land. See CRUSADES.

HERMITAGE properly signifies a little hut or habitation, in some desert place, where a hermit dwells.

Hermitage is also popularly attributed to any religious cell, built and endowed in a private and recluse place, and thus annexed to some large abbey, of which the superior was called *hermita*.

HERMODACTYL, in the materia medica, a root brought from Turkey. It is of the shape of a heart flattened, of a white colour, compact, yet easy to cut or powder; of a viscous sweetish taste, with a light degree of acrimony. Hermodactyls were of great repute among the ancients as a cathartic; but those we now meet with in the shops have very little purgative virtue; Neumann declares he never found them to have any effect at all.—The hermodactil is the root of the Colchicum variegatum, according to some; others suppose it to be the root of the Iris tuberosa.

HERMOGENES, the first and most celebrated architect of antiquity, was, according to Vitruvius, born at Alanbada, a city in Caria. He built a temple of Diana at Magnesia; another of Bacchus at Tros; and was the inventor of several parts of architecture. He composed a book on the subject, which is lost.

HERMOGENES-Tarsensis, a rhetorician and orator, and who was in every respect a prodigy. At 17 years of age he published his system of rhetoric, and at 20 his philosophic ideas: but at 25 he forgot every thing he had known. It is said, that his body being opened after his death, his heart was found of an extraordinary size, and all over hairy. He died about 168 B. C.

HERMOGENIANS, a sect of ancient heretics, denominated from their leader Hermogenes, who lived towards the close of the second century. Hermogenes established matter as his first principle; and regarding matter as the fountain of all evil, he maintained that the world, and every thing contained in it, as also the souls of men and other spirits, were formed by the Deity from an uncreated and eternal mass of corrupt

matter. The opinions of Hermogenes, with regard to the origin of the world and the nature of the soul, were warmly opposed by Tertullian.

The Hermogenians were divided into several branches under their respective chieftains, viz. Hermiani, Seleucians, Materiari, &c.

HERMON, or AERMON (anc. geog.); a mountain of the Amorites, called *Sanior* by the Phœnicians, and *Sanir* or *Senir* by the Amorites, on the east of Jordan. It is also called *Sion*, (Moses); but must not be confounded with the Sion of Jerusalem. By the Sidonians it was called *Scirion*; in the vulgate, it is called *Sarion*. Joshua informs us, that it was the dominion of Og king of Bashan; which must be understood of its south side. It is never particularly mentioned by profane writers; being comprised under the appellation *Libanus*, or *Antilibanus*, with which mountain it is joined to the east. It is also called *Hermomim* plurally, Psalm xlii. 6. because it was extensive, and contained several mountains.

HERMUS, (anc. geog.), a river of Ionia; which rising near Dorylæum, a town of Phrygia, in a mountain sacred to Dindymene or Cybele, touched Mysia, and ran through the Regio Combufta, then through the plains of Smyrna down to the sea, carrying along with it the Pactolus, Hyllus, and other less noble rivers. Its waters were said to roll down gold, by Virgil and other poets.

HERNANDRIA, JACK-IN-A-BOX-TREE: A genus of the triandria order, belonging to the monœcia class of plants; and in the natural method ranking under the 38th order, *Tricoccæ*. The male calyx is tripartite; the corolla tripetalous; the female calyx is truncated, quite entire; the corolla hexapetalous; the plum hollow, and open at the mouth or upper part, with a loose kernel.

Species. 1. The sonora, or common jack-in-a-box, is a native of both the Indies. It grows 20 or 30 feet high; and is garnished with broad peltated leaves, and monœcious flowers, succeeded by a large swollen hollow fruit formed of the calyx; having a hole or open at the end, and a hard nut within. The wind blowing into the cavity of this fruit makes a very whistling and rattling noise, whence comes the name. 2. The ovigera grows many feet high, garnished with large oval leaves not peltated; and monœcious flowers, succeeded by a swollen fruit open at the end, and a nut within.

Uses. The sonora, in Java, affords a sure antidote against poison, if you either put its small roots on the wounds or eat them; as was discovered to Rumphius by a captive woman in the war between the people of Macassar and the Dutch in the year 1667. The soldiers of the former always carry this root about them, as a remedy against wounds with poisonous arrows.

Culture. Both these plants being tender exotics, must be planted in pots of rich earth, and always kept in a hot-house; in which, notwithstanding all the care that can be taken, they seldom flower, and never grow beyond the height of common shrubs, tho' in the places where they are natives they arrive at the height of trees. They are propagated by seeds procured from the West Indies.

HERNE, a town of Kent, 6 miles from Canterbury, 12 from Margate, and 14 from Feverham. It formerly

Hermion
||
Herne.

Hernia merly had a market, and has now a fair on Easter-Tuesday. The church is a large ancient structure, with a tower of flint, and has six stalls of the cathedral kind, with divisions of the choir from the nave by a carved screen of oak. The church is 113 feet long. The stone font is very ancient. Here the great Dr Ridley, the English martyr, was vicar. Here is a commodious bay, frequented by colliers, &c.

HERNIA, in medicine and surgery, a descent of the intestines or omentum out of their natural place; or rather, the tumour formed by that descent, popularly called a rupture. The word is Latin, *hernia*, and originally signifies the same with *tumor scroti*, called also *ramex*. Priscian observes, that the ancient Marſi gave the appellation *hernia* to rocks; whence some will have hernias thus called *propter duritiem*, on account of their hardness. Scaliger chooses rather to derive the word from the Greek *ἑρνος*, *ramus*, branch. See (*Index* to) **SURGERY**.

HERNIARIA, RUPTURE-WORT: A genus of the digynia order, belonging to the pentandria class of plants; and in the natural method ranking under the 11th order, *Sarmentacea*. The calyx is quinque partite; there is no corolla; there are five barren stamina, and a monospermous capsule.

Species. There are four species, of which the only remarkable one is the glabra, or smooth rupture-wort, a native of many parts of England. It is a low trailing plant, with leaves like the smaller chickweed; the flowers come out in clusters from the side of the stalks at the joints, and are of a yellowish green colour.

Uses, &c. This plant is a little saltish and astringent. The juice takes away specks in the eye. Cows, sheep, and horses, eat the plant; goats and swine refuse it.

HERO, in Pagan mythology, a great and illustrious person, of a mortal nature, though supposed by the populace to partake of immortality, and after his death to be placed among the number of the gods. The word is formed of the Latin *heros*, and that of the Greek *ἥρως* *semi-deus*, "demi-god"—The Greeks erected columns and other monuments over the tombs of their heroes, and established a kind of worship in honour of the manes both of their heroes and heroines. The Romans also raised statues in honour of their heroes; but there were six of their heroes of a superior order, and who were supposed to be admitted into the community of the twelve great gods: these were Hercules, Bacchus, Esculapius, Romulus, Castor, and Pollux. Writers have distinguished between the worship which the ancients paid to their heroes and that offered to their gods. The latter, it is said, consisted of sacrifices and libations; the former was only a kind of funeral honour, in which they celebrated their exploits, concluding the rehearsal with feasts.

HERO is also used in a more extensive sense, for a great, illustrious, and extraordinary personage; particularly in respect of valour, courage, intrepidity, and other military virtues.

F. Bouhours makes this distinction between a great man and a hero, that the latter is more daring, fierce, and enterprising; and the former more prudent, thoughtful, and reserved. In this sense we properly say, Alexander was a hero, Julius Cæsar a great man.

HERO of a poem or romance, is the principal personage, or he who has the chief part in it. Thus the hero of the Iliad is Achilles; of the Odyssey, Ulysses; of the Æneid, Æneas; of Tasso's Jerusalem, Godfrey of Bulloign; of Milton's Paradise Lost, Adam; though Mr Dryden will have the devil to be Milton's hero, because he gets the better of Adam, and drives him out of Paradise.

HERO, in fabulous history, a famous priestess of Venus, lived at Abydos, in a tower situated on the banks of the Hellespont. She being beloved by Leander, who lived at Sestos on the other side of the strait, he every night swam over to visit her, being directed by a light fixed on the tower. But the light being put out in a stormy night, the youth missed his way, and was drowned; on which Hero threw herself into the sea, and perished.

HERO, the name of two celebrated Greek mathematicians; the one called the *old*, and the other the *young*, *Hero*. The younger was a disciple of Ctesibius. They are known by two works translated into Latin by Barochius: *Spiralium liber*, by Hero senior; and *Tractat. artis et machin. militar.* by Hero junior. They flourished about 130 and 100 B. C.

HEROD, falsely styled the *Great*, king and execrable tyrant of Judæa; who, on the strength of a misinterpreted prophecy, caused all the male children of Bethlehem and its neighbourhood to be massacred by his soldiers at the time of the birth of Christ, in the vain hope of destroying the Saviour of mankind. He died, eaten with worms, two or three years after the birth of our Saviour, at the age of 71, after a reign of 40 years. He had ordered that all the persons of quality, whom he kept in prison, should be massacred the moment the breath was out of his body, in order that every considerable family in the kingdom might shed tears at his death; but that inhuman order was not executed.

HERODIAN, an eminent Greek historian, who spent the greatest part of his life at Rome, flourished in the third century, in the reigns of Severus, Caracalla, Heliogabalus, Alexander, and Maximin. His history begins from the death of Marcus Aurelius the philosopher; and ends with the death of Balbinus and Maximin, and the beginning of the reign of Gordian. It is written in very elegant Greek; and there is an excellent translation of it into Latin, by Angelus Politianus. Herodian has been published by Henry Stephens in 4to, in 1581; by Boecler, at Strasburg, in 1662, 8vo; and by Hudson, at Oxford, in 1699, 8vo.

HERODIANS, a sect among the Jews at the time of our Saviour; mentioned Math. xxii. 16. Mark iii. 6.

The critics and commentators are very much divided with regard to the Herodians. St Jerom, in his Dialogue against the Luciferians, takes the name to have been given to such as owned Herod for the Messiah; and Tertullian and Epiphanius are of the same opinion. But the same Jerom, in his Comment on St Matthew, treats this opinion as ridiculous; and maintains, that the Pharisees gave this appellation by way of ridicule to Herod's soldiers who paid tribute to the Romans; agreeable to which the Syrian interpreters render the word by *the domestics of Herod*, i. e. "his courtiers."

Herodotus. courtiers." M. Simon, in his notes on the 22d chapter of Matthew, advances a more probable opinion. The name *Herodian* he imagines to have been given to such as adhered to Herod's party and interest; and were for preserving the government in his family, about which were great divisions among the Jews.—F. Hardouin will have the Herodians and Sadducees to have been the same.—Dr Prideaux is of opinion that they derived their name from Herod the Great, and that they were distinguished from the other Jews by their concurrence with Herod's scheme of subjecting himself and his dominions to the Romans, and likewise by complying with many of their heathen usages and customs. This symbolizing with idolatry upon views of interest and worldly policy, was probably that leaven of Herod, against which our Saviour cautioned his disciples. It is farther probable that they were chiefly of the sect of Sadducees; because the leaven of Herod is also denominated the leaven of the Sadducees.

HERODOTUS, an ancient Greek historian of Halicarnassus in Caria, son of Lyxus and Dryo, was born in the first year of the 74th Olympiad, that is, about 484 B. C. The city of Halicarnassus being at that time under the tyranny of Lygdamis grandson of Artemisia queen of Caria, Herodotus quitted his country and retired to Samos; from whence he travelled over Egypt, Greece, Italy, &c. and in his travels acquired the knowledge of the history and origin of many nations. He then began to digest the materials he had collected into order, and composed that history which has preserved his name among men ever since. He wrote it in the isle of Samos, according to the general opinion.—Lucian informs us, that when Herodotus left Caria to go into Greece, he began to consider with himself,

What he should do to be for ever known
And make the age to come his own,

in the most expeditious way, and with as little trouble as possible. His history, he presumed, would easily procure him fame, and raise his name among the Grecians in whose favour it was written: but then he foresaw that it would be very tedious to go through the several cities of Greece, and recite it to each respective city; to the Athenians, Corinthians, Argives, Lacedemonians, &c. He thought it most proper therefore to take the opportunity of their assembling all together; and accordingly recited his work at the Olympic games, which rendered him more famous than even those who had obtained the prizes. None were ignorant of his name, nor was there a single person in Greece who had not seen him at the Olympic games, or heard those speak of him who had seen him there.

His work is divided into nine books; which, according to the computation of Dionysius Halicarnassensis, contain the most remarkable occurrences within a period of 240 years; from the reign of Cyrus the first king of Persia, to that of Xerxes when the historian was living. These nine books are called after the names of the nine muses, each book being distinguished by the name of a muse; and this has given birth to two disquisitions among the learned: 1. Whether they were so called by Herodotus himself; and, 2. For what reason they were so called. As to the first, it is generally agreed that Herodotus did not impose these names himself; but it is not agreed why they were

imposed by others. Lucian tells us, that these names were given them by the Grecians at the Olympic games, when they were first recited, as the best compliment that could be paid the man who had taken pains to do them so much honour. Others have thought that the names of the *muses* have been fixed upon them by way of reproach; and were designed to intimate, that Herodotus, instead of true history, had written a great deal of fable. But, be this as it will, it is certain, that with regard to the truth of his history, he is accused by several authors; and, on the other hand, he has not wanted persons to defend him. Aldus Manutius, Joachim Camerarius, and Henry Stephens, have written apologies for him; and, among other things, have very justly observed, that he seldom relates any thing of doubtful credit without producing the authority on which his narration is founded; and, if he has no certain authority to fix it upon, uses always the terms *ut ferunt, ut ego audivi, &c.*

There is ascribed also to Herodotus, but falsely, a Life of Homer, which is usually printed at the end of his work.—He wrote in the Ionic dialect, and his style and manner have ever been admired by all people of taste. There have been several editions of the works of this historian; two by Henry Stephens, one in 1570, and the other in 1592; one by Gale at London in 1679; and one by Gronovius at Leyden in 1715, which is the last and best, though not the best printed.

HEROIC, something belonging to a hero, or heroine. Thus we say, *heroic actions, heroic virtue, heroic style, heroic verse, heroic poet, heroic age, &c.*

HEROIC Age, is that age or period of the world wherein the *heroes*, or those called by the poets the *children of the gods*, are supposed to have lived.—The heroic age coincides with the fabulous age.

HEROIC Poem is that which undertakes to describe some extraordinary action, or enterprize. Homer, Virgil, Statius, Lucan, Tasso, Camoens, Milton, and Voltaire, have composed *heroic poems*. In this sense, *heroic poem* coincides with *epic poem*.

HEROIC Verse, is that wherein heroic poems are usually composed; or, it is that proper for such poems. In the Greek and Latin, hexameter verses are peculiarly denominated *heroic verses*, as being alone used by Homer, Virgil, &c. Alexandrine verses, of 12 syllables, were formerly called *heroic verses*, as being supposed the only verse proper for heroic poetry; but later writers use verses of ten syllables.

HEROINE, HEROINA, or *Herois*, a woman that has the qualities and virtues of a hero, or that has done some heroic action.

HERON, in ornithology. See ARDEA.

This bird is a very great devourer of fish, and will do more mischief to a pond than even an otter. Some say that an heron will destroy more fish in a week than an otter will in three months; but that seems carrying the matter too far. People who have kept herons, have had the curiosity to number out the fish they fed them with into a tub of water; and counting them again afterwards, it has been found that a heron will eat 50 moderate-sized dace and roaches in a day. It has been found, that in carp-ponds visited by this bird, one heron will eat up 1000 store carp in a year, and will hunt them so close that very few can escape. The readiest method of destroying this mischievous bird is by fishing for him in the manner of pike, with a baited

Herodotus
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Heron.

Herpes
||
Herring.

baited hook. When the haunt of the heron is found out, three or four small roach or dace are to be procured, and each of them is to be baited on a wire with a strong hook at the end; entering the wire just under the gills, and letting it run just under the skin to the tail: the fish will live in this condition five or six days, which is a very essential thing; for if it is dead, the heron will not touch it. A strong line, about two yards long, is then to be prepared of silk and wire twisted together; tie this to the wire that holds the hook; and to the other end there is to be tied a stone of about a pound weight. Let three or four of these baits be sunk in different shallow parts of the pond, and in a night or two the heron will not fail of being taken by one or other of them.—When hawking was in use, the heron afforded a great deal of sport to people who loved that diversion. There is but very little art in this flight of the hawk; but as both birds are large and courageous, the fight is finer than in the flight of smaller birds that make no resistance.

HERPES, in medicine, a bilious pustule, which breaking out in different manners upon the skin, accordingly receives different denominations. See (the Index subjoined to) MEDICINE.

HERRERA TORDESILLAS (Anthony), a Spanish historian, was secretary to Vespasian Gonzaga viceroy of Naples, and afterwards historiographer of the Indies, under king Philip II. who allowed him a considerable pension. He wrote a general history of the Indies, in Spanish, from 1492 to 1554; and of the world (not so much esteemed), from 1554 to 1598. He died in 1625, aged about 66.

HERRERA (Ferdinand de), an eminent Spanish poet, of the 16th century, was born at Seville, and principally succeeded in the lyric kind. Besides his poems, he wrote notes on Garcilasso de la Vega, and an account of the war of Cyprus, and the battle of Lepanto, &c.

HERRING, in ichthyology, a species of CLUPEA. The name *herring* is derived from the German *beer*, an *army*, which expresses their number, when they migrate into our seas. Herrings are found in great plenty from the highest northern latitudes as low as the northern coasts of France. They are also met with in vast shoals on the coast of America, as low as Carolina: they are found also in the sea of Kamtschatka, and possibly reach Japan: but their winter rendezvous is within the arctic circle, whither they retire after spawning, and where they are provided with plenty of insect food. For an account of the remarkable migration of herrings, and the history of the fishery, &c. see CLUPEA and Herring-FISHERY.

They are in full roe at the end of June, and continue in perfection till the beginning of winter, when they begin to deposit their spawn.

There are different names given to preserved herrings, according to the different manners wherein they are ordered: as, 1. *Sea-sticks*; which are such as are caught all the fishing season, and are but once packed. A barrel of these holds six or eight hundred; eight barrels go to the tun by law; a hundred of herrings is to be a hundred and twenty; a last is ten thousand, and they commonly reckon fourteen barrels to the last.

There are others, repacked on shore, called *repacked herrings*; seventeen barrels of sea-sticks commonly make from twelve to fourteen of repacked herrings.

The manner of repacking them is, to take out the herrings, wash them out in their own pickle, and lay them orderly in a fresh barrel: these have no salt put to them, but are close packed, and headed up by a sworn cooper, with pickle, when the barrel is half full. The pickle is brine; so strong as that the herring will swim in it.

2. *Summers*, are such as the Dutch chasers or divers catch from June to the 15th of July. These are sold away in sea-sticks, to be spent presently, in regard of their fatness; because they will not endure repacking. They go one with another, full and shotten; but the repacked herrings are sorted, the full herrings by themselves.

3. The *shotten* and *sick herrings* by themselves; the barrel whereof is to be marked distinctly.

4. *Crux herrings*; which are such as are caught after the 14th of September. These are cured with that kind of salt called salt upon salt, and are carefully sorted out, all full herrings, and used in the repacking.

5. *Corved herrings*. These serve to make red herrings, being such as are taken in the Yarmouth seas, from the end of August to the middle of October; provided they can be carried ashore within a week, more or less, after they are taken. These are never gipped, but rowed in salt, for the better preserving of them, till they can be brought on shore; and such as are kept to make red herrings are washed in great vats in fresh water before they are hung up in the *herring-bangs* or red-herring houses.

As for the manner of salting herrings. The nets being haled on board, the fishes are taken out, and put into the warbacks, which stand on one side of the vessels. When all the nets are thus unloaded, one fills the gippers baskets. The gippers cut their throats, take out their guts, and sling out the full herrings into one basket, and the shotten into another. One man takes the full basket when they are gipped, and carries them to the rower-back, wherein there is salt. One boy rows and stirs them about in the salt, and another takes them, thus rowed, and carries them in baskets to the packers. Four men pack the herrings into one barrel, and lay them, one by one, straight and even; and another man, when the barrel is full, takes it from the packers. It is left to stand a day, or more, open to settle, that the salt may melt and dissolve to pickle; after which it is filled up, and the barrel headed. The pickle is to be strong enough to sustain a herring; otherwise the fish decay in it. See Herring-FISHERY.

It is unlawful to buy or sell herrings at sea before the fishermen come into the haven, and the cable of the ship bedrawn to the land. 31 Edw. III. stat. 2. No herring shall be sold in any vessel, but where the barrel contains thirty-two gallons, and half barrel and firkin accordingly; and they must be well packed, of one time's packing and salting, and be as good at the middle as the ends, on the pain of forfeiting 3s. 4d. a barrel, &c. by stat. 22 Edw. IV. cap. 2. The vessels for herrings are to be marked with the quantity and place where packed, and packers to be appointed and sworn in all fishing-ports, &c. under the penalty of 100l. stat. 15 Car. II. cap. 16.

HERRING (Thomas), archbishop of Canterbury, was the son of the rev. Mr John Herring, rector of Walsoken in Norfolk, where he was born in 1693. He

Herring.

Herring
Hernhuters.

He was educated at Jesus-college, Cambridge; was afterwards chosen fellow of Corpus Christi college, and continued a tutor there upwards of seven years. Having entered into priest's orders in 1719, he was successively minister of Great Shelford, Stow cum Qui, and Trinity in Cambridge; chaplain to Dr Fleetwood, bishop of Ely; rector of Rettingdon in Essex, and of Barly in Hertfordshire; preacher to the Society of Lincoln's Inn, chaplain in ordinary to his late majesty, rector of Blechingly in Surry, and dean of Rochester. In 1737 he was consecrated bishop of Bangor, and in 1743 translated to the archiepiscopal see of York. When the late rebellion broke out in Scotland, and the king's troops were defeated by the Highlanders at Prestonpans, he distinguished himself by removing the general panic, and awakening the nation from its lethargy. He convened the nobility, gentry, and clergy of his diocese; and addressed them in a noble speech, which had such an effect upon his auditory, that a subscription ensued, to the amount of forty thousand pounds; and the example was followed by the nation in general. On the Death of Dr Potter in 1747, he was translated to the see of Canterbury; but in 1753 was seized with a violent fever, which brought him to the brink of the grave; and after languishing about four years, he died on the 13th of March 1757. He expended upwards of six thousand pounds in repairing and adorning the palaces of Croydon and Lambeth. This worthy prelate, in a most eminent degree, possessed the virtues of public life; his mind was filled with unaffected piety and benevolence, he was an excellent preacher, and a true friend to religious and civil liberty. After his death was published a volume of his sermons on public occasions.

HERRISON. See HERISSON.

HERNHUTTERS, in ecclesiastical history, the name of a fanatical sect, called also Moravians, which sprung up in Upper Lusatia towards the beginning of this century. This sect was founded by Nicholas Lewis count of Zinzendorf; and to his activity and zeal the progress of it is to be ascribed. According to the account which he gives of himself, he had formed a design, when only ten years old, of collecting a small society of believers, who should altogether employ themselves in exercises of devotion under his direction. Accordingly, when he became of age, in the year 1721, he settled at Bertholdsdorf, a village in Upper Lusatia, where he was soon joined by a number of profelytes from Moravia; so that in a few years Bertholdsdorf became a considerable village, having an orphan house, and other public buildings. In 1728, thirty-four new houses were erected; and in 1732 the number of inhabitants amounted to six hundred. From the name of a hill in the neighbourhood of this village, called the *Huth-berg*, these colonists gave their dwelling place the appellation of *Huth des Herrn*, and afterwards *Hernhuth*, signifying the guard or protection of the Lord; whence arose the denomination of their sect. As their number increased, Zinzendorf established a peculiar discipline; dividing his adherents into different classes of married men, married women, widowers, widows, maids, bachelors, and children; each class being under the inspection of a director, chosen by its members; and the classes are also subject

to the superintendence of an elder, co-elder, and vice-elder. Particular attention was paid by these several classes to the instruction of youth; and as a great part of their worship consisted in singing, they pretended that children were instructed in their religion by hymns. There are some persons of both sexes appointed by rotation to pray for the society, who are admonished of their duty by inward feeling; and they pretend to determine the divine will in particular cases by casting lots. All matrimonial contracts are subject to the direction and approbation of the elders. This sect professed in their first establishment to belong to the Lutheran church; but count Zinzendorf, for the greater credit of this new society, afterwards pretended that it was a revival of the ancient Moravian church, or Bohemian brethren, who were converted from popery by John Hus. But this seems to have been a mere pretence. Such was the origin of a sect, which in process of time became very considerable and extensive, and which adopted tenets and practices as infamous as they are singular. Zinzendorf was denominated the trustee and guardian of the brethren; in 1737 he was consecrated bishop of this sect, a dignity which he resigned in 1740. Towards the close of the year 1744, he was denominated minister plenipotentiary and œconomist; and it was enacted, that nothing of importance should be done without his consent; and he afterwards styled himself the lord advocate of the *unitas fratrum*. Zinzendorf has travelled in person all over Europe, and been twice in America; and he has also sent missionaries almost throughout the known world. It would be endless to recount the numberless artifices which this sectary has made use of to establish his own authority, and to extend the interest of his party. According to his own account, published in 1749, the society had almost a thousand labourers dispersed all over the world, who preached in fourteen languages, and ninety-eight different establishments, among which are castles, that have twenty, fifty, or ninety apartments. How far these boasts are justified by fact, we cannot pretend to determine; but it is certain, that the decline of this sect has been no less signal and rapid than its progress. With regard to the tenets of the Hernhutters, it may be observed, that at their first rise they professed to admit the confession of Augsburg, and count Zinzendorf has always referred to this confession as the standard of his doctrine. However, it is well known, that he has advanced the most pernicious notions, and recommended the most abominable practices; such notions and practices as disfigure the sacred truths of the gospel, and sap the foundations of morality. The count himself speaks in very derogating terms of the scripture; and expressly asserts, that the reading of the scripture appears to him to be more dangerous than useful to society. To avoid idolatry, he says, people ought to be taken from the Father and Holy Ghost, and conducted to Christ, with whom alone we have to do. The Holy Ghost is called by the Hernhutters the eternal wife of God, the mother of Christ, the mother of the faithful, and of the church. The language of their devotion is obscene and abominable; and the ideas excited by it are such as no chaste mind can entertain. In some of their hymns of devotion, they make their direct addresses to what was formerly adored at Lampsacus. The con-
4 jugal

Hernhut-
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Hervey

jugal act is a piece of scenery, in which the male represents Christ the husband of souls, and the female the church; and they have actually appointed such ceremonies, in the celebration of marriage, as suppose them to have entirely given up all sense of shame. Count Zinzendorf expressly declares, that the law is not a rule of life to a believer; that the moral law belongs only to the Jews, and that a converted person cannot sin against light. We shall only add, that no examples can be found of a fanaticism more extravagant, and a mysticism more gross and scandalous, than those of the Hernhuters; and it would be impossible to multiply specimens of their creed or devotion, extracted from the sermons and writings of their founder, without offending the chaste reader. Those whose curiosity leads them to wish for farther information, may consult Mosheim's Eccl. Hist. vol. v. p. 85, note (s). Warburton's Doctrine of Grace, vol. ii. p. 153, and Rimius's Candid Narrative of the Rise and Progress of the Hernhuters, commonly called Moravians, or Unitas Fratrum, &c. 1753, and Supplement, &c. published in 1755.

HERSE, in fortification, a lattice, or portcullis, in form of an harrow, beset with iron spikes. The word *herse* is French, and literally signifies "harrow;" being formed of the Latin *herpex* or *irpex*, which denotes the same.

It is usually hung by a rope fastened to a moulinet; to be cut, in case of surprise, or when the first gate is broken with a petard, that the herse may fall, and stop up the passage of the gate or other entrance of a fortress.

The herse is otherwise called a *sarrafin*, or *cataraet*; and when it consists of straight stakes, without any cross-pieces, it is called *orgues*.

HERSE, is also a harrow, which the besieged, for want of chevaux de frise, lay in the way, or in breaches, with the points up, to incommode the march as well of the horse as of the infantry.

HERSILLON, in the military art, a sort of plank or beam, ten or twelve feet long, whose two sides are drove full of spikes or nails, to incommode the march of the infantry or cavalry. The word is a diminutive of *herse*; the hersillon doing the office of a little herse. See HERSE.

HERTFORD. See HARTFORD.

HERTHA, or HERTHUS, in mythology, a deity worshipped by the ancient Germans. This is mentioned by Tacitus, in his book *De Moribus Germanorum*, cap. 40. Vossius conjectures, that this goddess was Cybele; but she was more probably Terra or the Earth; because the Germans still use the word *herth* for the earth, whence also the English *earth*. Some have supposed that Stonehenge was a temple consecrated to the goddess Herta.

HERTZBERG, a considerable town of Germany, in the electorate of Saxony, and on the confines of Lusatia. E. Long. 13. 37. N. Lat. 51. 42.

HERVEY (James), a late divine of exemplary piety, was born in 1714, and succeeded his father in the livings of Weston Favell and Collingtree in Northamptonshire. These being within five miles of each other, he attended alternately with his curate; till being confined by his ill health, he resided constantly at Weston; where he diligently pursued the labours of

the ministry and his study, under the disadvantage of a weak constitution. He was remarkably charitable; and desired to die just even with the world, and to be, as he termed it, his own executor. This excellent divine died on Christmas-day 1758, leaving the little he possessed to buy warm cloathing for the poor in that severe season.—No work is more generally or deservedly known than his *Meditations and Contemplations*: containing, Meditations among the Tombs, Reflections on a Flower-garden, a Descant on Creation, Contemplations on the Night and Starry Heavens, and a Winter-piece. The sublime sentiments in these pieces have the peculiar advantage of being conveyed in a flowing elegant language, and they have accordingly gone thro' many editions. He published besides, *Remarks on Lord Bolingbroke's Letters on History*; *Theron and Aspasio, or a Series of Dialogues and Letters on the most important Subjects*; some sermons, and other tracts.

HERVEY Island, one of the South-Sea islands, discovered by Captain Cook, September 23. 1773, who gave it that name in honour of the earl of Bristol. It is a low island, situated in W. Long. 158. 54. S. Lat. 19. 8.

HESBON, ESEBON, or *Hesebon* (anc. geog.), the royal city of the Amorites, in the tribe of Reuben, according to Moses: Though in Joshua xxi. 39. where it is reckoned among the Levitical cities, it is put in the tribe of Gad; which argues its situation to be on the confines of both. It is thus determined by Jerome, who says, that in his time it was called *Ebus*. A considerable city, in the mountains of Arabia which lie over against Jericho, distant 20 miles from the river Jordan; not indeed in the same latitude with Jericho, but somewhat more to the north, because situated on the borders of the Gadites; and called a city of Arabia, because the Arabs were at that time possessed of the Lower Petraea.

HESIOD, a very ancient Greek poet; but whether cotemporary with Homer, or a little older or younger than him, is not yet agreed among the learned; nor is there light enough in antiquity to settle the matter exactly. His father, as he tells us in his *Opera et Dies*, was an inhabitant of Cuma, one of the Eolian isles, now called *Taio Nova*; and removed from thence to Ascra, a little village of Boeotia, at the foot of mount Helicon, where Hesiod was probably born, and called, as he often is, *Ascreus*, from it. Of what quality his father was, is nowhere said; but that he was driven by his misfortunes from Cumæ to Ascra, Hesiod himself informs us. His father seems to have prospered better at Ascra than he did in his own country; yet Hesiod could arrive at no higher fortune than keeping sheep on the top of mount Helicon. Here the muses met with him, and entered him into their service:

Erewhile as they the shepherd swain behold,
Feeding beneath the sacred mount his fold,
With love of charming song his breast they fir'd,
There met the heav'nly muses first inspir'd;
There, when the maids of Jove the silence broke,
To Hesiod thus, the shepherd swain, they spoke, &c.
To this account, which is to be found in the beginning of his *Generatio Deorum*, Ovid alludes in these two lines:

*Nec mihi sunt visa Clio, Clisq; sorores,
Servanti pecudes vallibus Ascræ tuis.
Nor Clio nor her sisters have I seen,
As Hesiod saw them in th' Ascræan green.*

Hervey
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Hesiod.

Hesiod
||
Hesperides.

On the death of the father, an estate was left, which ought to have been equally divided between the two brothers Hesiod and Perseus; but Perseus defrauded him in the division, by corrupting the judges. Hesiod was so far from resenting this injustice, that he expresses a concern for those mistaken mortals who place their happiness in riches only, even at the expence of their virtue. He lets us know, that he was not only above want, but capable of assisting his brother in time of need; which he often did though he had been so ill used by him. The last circumstance he mentions relating to himself is his conquest in a poetical contention. Archidamus, king of Eubœa, had instituted funeral games in honour of his own memory, which his sons afterwards took care to have performed. Here Hesiod was a competitor for the prize in poetry; and won a tripod, which he consecrated to the muses. Hesiod having entered himself in the service of the muses, left off the pastoral life, and applied himself to the study of arts and learning. When he was grown old, for it is agreed by all that he lived to a very great age, he removed to Locris, a town about the same distance from mount Parnassus as Ascra was from Helicon. His death was tragical. The man with whom he lived at Locris, a Milesian born, ravished a maid in the same house; and though Hesiod was entirely ignorant of the fact, yet being maliciously accused to her brothers as an accomplice, he was injuriously slain with the ravisher, and thrown into the sea. The *Theogony*, and *Works and Days*, are the only undoubted pieces of this poet now extant: though it is supposed that these poems have not descended perfect and finished to the present time. A good edition of Hesiod's works was published by Mr Le Clerc at Amsterdam in 1701.

HESPER, HESPERUS, in astronomy, the evening star; an appellation given to Venus when she follows or sets after the sun. The word is formed of the Greek *Εσπερος*; and is supposed to have been originally the proper name of a man, brother of Atlas, and father of the Hesperides.

Diodorus, lib. iii. relates, that Hesperus having ascended to the top of mount Atlas, the better to observe and contemplate the stars, never returned more; and that hence he was fabled to have been changed into this star.

HESPERIA, an ancient name of Italy; so called by the Greeks from its western situation. *Hesperia* was also an appellation of Spain; but with the epithet *ultima* (Horace), to distinguish it from Italy, which is called *Hesperia magna* (Virgil), from its extent of empire.

HESPERI CORNU, called the *Great Bay* by the author of Hanno's Periplus: but most interpreters, following Mela, understand a promontory; some Cape Verd, others Palmas Cape: Vossius takes it to be the former, since Hanno did not proceed so far as the latter cape.

HESPERIDEÆ (from the *Hesperides*, whose orchards are said to have produced golden apples), *golden* or *precious fruit*: the name of the 19th order in Linnaeus's Fragments of a Natural Method. See BOTANY, p. 461.

HESPERIDES, in the ancient mythology, were the daughters of Hesper or Hesperus, the brother of

Atlas. According to Diodorus, Hesperus and Atlas two brothers, who possessed great riches in the western parts of Africa. Hesperus had a daughter called Hesperia, who married her uncle Atlas, and from this marriage proceeded seven daughters, called *Hesperides* from the name of their mother, and *Atlantides* from that of their father. According to the poets, the *Hesperides* were three in number, *Ægle*, *Arethusa*, and *Hesperithusa*. Hesiod, in his *Theogony*, makes them the daughters of *Nox*, *Night*, and seats them in the same place with the Gorgons; viz. at the extremities of the west, near mount Atlas: it is on that account he makes them the daughters of Night, because the sun sets there. The Hesperides are represented by the ancients as having the keeping of certain golden apples, on the other side the ocean. And the poets give them a dragon to watch the garden where the fruit grows: this dragon they tell us Hercules slew, and carried off the apples.—Pliny and Solinus will have the dragon to be no other than an arm of the sea, wherewith the garden was encompassed, and which defended the entrance thereof. And Varro supposes, that the golden apples were nothing but sheep. Others, with more probability, say they were oranges.

The Gardens of the HESPERIDES are placed by some authors at Larach, a city of Fez; by others, at Bernich, a city of Barca, which tallies better with the fable. Others take the province of Susa in Morocco for the island wherein the garden was seated. And, lastly, Rudbeck places the Fortunate Islands, and the gardens of the Hesperides, in Sweden.

HESPERIDUM INSULÆ (anc. geog.), islands near the Hesperic Cornu; but the accounts of them are so much involved in fable, that nothing certain can be affirmed of them.

HESPERIS, ROCKET, *Dame's Violet*, or *queen's gilliflower*: A genus of the filiquosa order, belonging to the tetradynamia class of plants; and in the natural method ranking under the 39th order, *Siliquosæ*. The petals are turned obliquely; there is a glandule within the shorter stamina; the siliqua almost upright; the stigma forked at the base, connivent, or closing at the top; the calyx close.

Species 1. The matronalis, or common sweet scented garden-rocket, hath fibrous roots, crowned with a tuft of long, spear-shaped, rough leaves; upright, single, hairy stalks two feet high; garnished with oval, lanceolate, slightly indented, close-fitting leaves; and the stalk and branches terminated by large and long spikes of sweet-scented flowers of different colours and properties in the varieties, of which there are a great number. All the varieties of this species are so remarkable for imparting a fragrant odour, that the ladies were fond of having them in their apartments. Hence they derived the name of *dame's violet*; and, bearing some resemblance to a stock-gilliflower, were sometimes also called *queen's gilliflower*; but are now most commonly called *rocket*. 2. The inodora, or scentless rocket, hath a fibrous root; upright, round, firm stalks, two feet high, garnished with spear-shaped, acute-pointed, sharply indented, close-fitting, leaves; and all the branches terminated by large spikes of scentless flowers, with obtuse petals, of different colours and properties in the varieties. This species makes

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Hesperis.

Hesperus, makes a fine appearance, but hath no scent. 3. The *trifolius*, or dull-flowered night-smelling rocket, hath fibrous roots; upright, branching, spreading, bristly stalks, two feet high; spear-shaped pointed leaves; and spikes of pale purple flowers, of great fragrance in the evening.

Culture. All the species are hardy, especially the first and second, which prosper in any of the open borders, and any common garden-soil; but the third, being rather impatient of a severe frost, and of much moisture in winter, should have a dry warm situation, and a few may be placed in pots to be sheltered in case of inclement weather. They may be propagated either by seeds, by offsets, or by cuttings off the stalks.

HESPERUS, in fabulous history, son of Cephalus by Aurora, as fair as Venus, was changed into a star, called *Lucifer* in the morning, and *Hesperus* in the evening. See HESPER.

HESSE, a country of Germany, in the circle of the Upper Rhine; bounded on the south by the bishoprick of Fulda; on the east by the principality of Hersfeld, Thuringia, and Eichsfeld, as also by that of Calenberg; on the north by the bishoprick of Paderborn and Waldek, the duchy of Westphalia, and the county of Witgenstein; and on the west, by Nassau-Dillenburg, the county of Solins, and Upper-Isenburg. In the above limits, the county of Katzenelnbogen and some other territories are not included. The whole country, in its utmost length, is near 100 miles, and in some places near as much in breadth. The air is cold, but wholesome; and the soil fruitful in corn, wine, wood, and pasture. The country abounds also in cattle, fish, and game; salt-springs, baths, and mineral waters. The hills, which are many, yield silver, copper, lead, iron, alum, vitriol, pit-coal, sulphur, boles, a porcelain earth, marble, and alabaster. In the Eder, gold is sometimes found; and at Frankenberg a gold mine was formerly wrought. Besides many lesser streams, Hesse is watered by the following rivers, viz. the Lhan, the Fulda, the Eder or Schwalm, the Werra or Wefer, and Diemel. The Rhine also and the Mayne pass through the country of Katzenelnbogen. This country, like most others in Germany, has its states, consisting of the *prelates*, as they are called, the nobility, and the towns. The diets are divided into general and particular, and the latter into the greater and smaller committees. The house of Hesse is divided into two principal branches, viz. Cassel and Darmstadt, of which Philippsdale, Rhinfeldts, and Homburg, are collateral branches; the two first of Hesse-Cassel, and the last of Hesse-Darmstadt. Their rights and privileges are very considerable. In particular, they have several votes at the diets of the empire; and causes, not exceeding 1000 florins, are determined by the courts of the country, without appeal. The princes of Hesse-Cassel are not of age till they are 25, but those of Hesse-Darmstadt are so at 18. The right of primogeniture hath been established in both houses. The revenues of Darmstadt are said to amount to near 100,000 l. a-year, and those of Hesse-Cassel to near 200,000 l. The small county of Schaumburg alone yields a revenue of 10,000 l. and that of Katzenelnbogen, with the forests of Richardswalde, it is said, was farmed near 200 years ago at 12,000 l. The prince of Hesse-Cassel has 40 or 50,000 men in

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his dominions fit to bear arms; and the troops that he hires out have often brought him in large sums, especially from Great Britain. He keeps a standing army of 15,000 men. This family is allied to most if not all of the Protestant princes in Europe. The branches of Cassel, Homburg, and Philippsdale, are Calvinists; that of Darmstadt, Lutherans; and that of Rhinfeldts, Roman Catholics. The present prince of Hesse-Cassel, indeed, in the year 1749, embraced the Roman Catholic religion; but in 1754 drew up, and confirmed by oath, an instrument, of which all the Protestant princes are guarantees, declaring that the established religion of his dominions should continue in every respect as before, and that his children should be brought up and instructed therein. Here, as in the other Protestant Lutheran countries of Germany, are consistories, superintendants, and inspectors of the church. In the whole langraviate are three universities, besides Latin schools and gymnasia, for the education of youth. The manufactures of Hesse are linen cloth, hats, stockings, gloves, paper, goldsmiths wares; and at Cassel a beautiful porcelain is made. They have also the finest wool in Germany; but are reproached with want of industry, in exporting instead of manufacturing it themselves.—This is supposed to have been the country of the ancient Catti, mentioned by Tacitus, &c. who, in after-ages, were called *Chatti*, *Chaffi*, *Haffi*, and *Hessi*. The two chief branches of Cassel and Darmstadt have many rights and privileges in common, which we have not room to specify. Both of them have a seat and vote in the college of princes at the diet of the empire, and those of this circle. Each of these princes, besides their guards and militia, maintains a considerable body both of horse and foot.

HESSIAN FLY, a very mischievous insect which lately made its appearance in North America; and whose depredations threaten in time to destroy the crops of wheat in that country entirely. It is, in its perfect state, a small winged insect; but the mischief it does is while in the form of a caterpillar; and the difficulty of destroying it is increased by its being as yet unknown where it deposits its eggs, to be hatched before the first appearance of the caterpillars. These mischievous insects begin their depredations in autumn, as soon as the wheat begins to shoot up through the ground. They devour the tender leaf and stem with great voracity, and continue to do so till stopped by the frost; but no sooner is this obstacle removed by the warmth of the spring, but the fly appears again, laying its eggs now, as has been supposed, upon the stems of the wheat just beginning to spire. The caterpillars, hatched from these eggs, perforate the stems of the remaining plants at the joints, and lodge themselves in the hollow within the corn, which shows no sign of disease till the ears begin to turn heavy. The stems then break; and being no longer able to perform their office in supporting and supplying the ears with nourishment, the corn perishes about the time that it goes into a milky state. These insects attack also rye, barley, and timothy-grass, though they seem to prefer wheat. The destruction occasioned by them is described in the American Museum (a magazine published at Philadelphia) for February 1787, in the following words: "It is well known that all the crops of wheat in all the land over which it has extended,

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Hessian
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have fallen before it, and that the farmers beyond it dread its approach; the prospect is, that unless means are discovered to prevent its progress, the whole continent will be over-run;—a calamity more to be dreaded than the ravages of war.”

This terrible insect appeared first in Long Island during the American war, and was supposed to have been brought from Germany by the Hessians; whence it had the name of the *Hessian fly*. From thence it has proceeded inland at the rate of about 15 or 20 miles annually; and by the year 1789 had reached 200 miles from the place where it was first observed. At that time it continued to proceed with unabating increase; being apparently stopped neither by rivers nor mountains. In the fly state it is likewise exceedingly troublesome; by getting into houses in swarms, falling into victuals and drink; filling the windows, and flying perpetually into the candles. It still continued to infest Long Island as much as ever; and in many places the culture of wheat was entirely abandoned.

The American States are likewise infested with another mischievous insect, named the *Virginian-wheat fly*. This, however, has not yet passed the river Delaware; though there is danger of its being gradually inured to colder climates so as to extend its depredations to the northern colonies also. But it is by no means the same with the Hessian fly. The wheat-fly is the same with that whose ravages in the Angmois in France are recorded by M. du Hamel; it eats the grain, and is a moth in its perfect state. On the other hand, the Hessian fly has hitherto been unknown to naturalists; it eats only the leaf and stalk; and, in its perfect state, is probably a *tenthredo*, like the black negro fly of the turnip.

As of late years great quantities of wheat were imported from America into Britain, it became an object worthy of the attention of government to consider how far it was proper to allow of such importation, lest this destructive insect might be brought along with the grain. The matter, therefore, was fully canvassed before the privy council; and the following is the substance of the information relative to it; and in consequence of this, the importation of American wheat was forbid by proclamation.

1. By a letter, dated 22d April 1788, Mr Bond, consul at Philadelphia, informed the marquis of Caermarthen, that there was a design to export wheat from thence to England; that the fly had made great depredations; and that there might be danger of its thus being conveyed across the Atlantic. He added, that it was not known where the eggs of the insect were deposited, though it was supposed to be in the grain. Steeping the seed in elder juice he recommended as an effectual remedy and preservative of the crop.

2. In consequence of this information his Lordship wrote to Sir Joseph Banks, president of the royal society, desiring him to inquire as much as possible concerning the insect, both with regard to its natural history, and the method of preventing its ravages. In this research, however, that learned gentleman mistook the insect called the *flying weevil* for the *Hessian fly*. Of this insect he gives a description*; but in a little time, being sensible of his mistake, he observed to the council, that his report to the marquis of Caermarthen applied not to the Hessian fly, but to a differ-

ent insect, viz. the *flying weevil*; that the danger of importing this insect was much greater than that of the Hessian fly. The corn already brought from America, he was of opinion, might easily be examined, and a discovery made whether the fly had been there. Among other methods which might be used for this purpose, that of putting the corn among water was one, when the infected grains would rise to the top, and might then be opened and examined. Some slight trials of that kind he had already made; and found manifest signs of the fly in some grains which he had opened.

3. A farther account of the insect was given by Dr Mitchel, in consequence of the above mentioned letter from the marquis of Caermarthen. According to him it was first discovered in the year 1776, on Staten Island, and the west end of Long Island; since that time it proceeded regularly through the southern district of the state of New York, part of Connecticut; and at the time of giving the account, July 1788, had got into New Jersey. As it appeared about the time that the Hessian troops arrived, an opinion had gone abroad that they brought it along with them; but the Doctor was of opinion that it is a native animal, nourished by some indigenous plant, but which then, for the first time, came among the wheat, and found it proper food. He had seen the caterpillar, chrysalis, and fly, but never could find the egg, or discover where it is deposited. The caterpillar appears, as has already been said, in autumn, and, after having devoured the tender stalk, soon becomes a chrysalis, coloured like a flax-seed; which, being fixed between the leaf and the stalk, injures the plant by its mechanical pressure: from this proceeds the fly, which is either able of itself to sustain the intense winter frosts, or lays eggs capable of doing it. Early in the spring the caterpillar appears again, even when the heat is scarce sufficient to make the wheat grow; its ravages, therefore, are at this period particularly destructive; and it passes through its metamorphoses with such speed, as to produce a third generation while the wheat is yet tender and juicy: however, as the corn has by this time grown considerably, the third generation is not so destructive as the second. It hurts chiefly by rendering the straw weak, and liable to break down when loaded afterwards by the weight of a full ear; “and sometimes (says the Doctor) it will be infested by the fourth swarm before harvest.”

4. In another communication of Sir Joseph Banks, dated July 24. 1788, he makes some general observations on the nature of those caterpillars from which flying insects proceed; and to which class both the flying weevil and Hessian fly belong. Nature, he observes, has provided against the kinds of danger these tender insects are most likely to meet with. Thus, in climates where the winters are severe, the eggs of the most tender insects resist the force of the usual frost; in seasons of remarkable severity, indeed, some are destroyed; but a sufficient number always escape for propagating the species. The young caterpillar, if hatched before its proper food be ready, will survive even weeks before it perishes for want of nourishment; and in some few instances where it is hatched in the autumn, it is directed by instinct to spin a web, in which it remains torpid and without food during the whole winter.

Hessian
Fly.

* See
Weevil.

Hessian
Fly.

winter. The chrysalis, though deprived of loco-motion, is capable of resisting various dangers, arising from cold, heat, wet, &c. and the length of time which the animal remains in that state is capable of very considerable extension. The complete animal, tender as it appears, and intended to exist no longer than is necessary to fulfil the business of propagation, which, in some species, is gone through in a few days, nevertheless is capable, in some instances, of enduring the utmost variation of climate; and if, by accidental circumstances, the sexes are prevented from meeting, its short life is extended to many times the amount of its usual duration.

The observations on the fly made by Sir Joseph in this paper, are not different from those already related; only he dissents from the opinion of Mr Bond, that the eggs are laid on the grain; thinking it more probable from analogy, that they are deposited on the straw; and being shaken off from thence by the strokes of the flail in threshing, are mixed with the corn; from whence it must be very difficult to separate them. Hence he concluded, that there was an apparent and very great risk of importing the eggs along with the corn; and there was no doubt, that when once they had got a footing, they would establish themselves in Britain as well as in America. It must be observed, however, that none of the grain which was examined showed any signs of this fly, its eggs, or caterpillars; such insects as were found in some diseased specimens being only the weevils common in England as well as in other countries; though some which were inspected in the month of August this year contained the chrysalis of some insects, which Sir Joseph Banks was of opinion might be the flying weevil; and as he did not know whether these would revive or not, he gave it as his opinion, that the cargo in which they were found ought not to be suffered to come into the kingdom.

5. In order to procure all the intelligence that could be had concerning these insects, the duke of Dorset addressed a letter to the royal society of agriculture in France, to know whether any of them exist in that country. The report of the society was accompanied with a drawing of two insects; one of which was supposed to be the caterpillar of the Hessian fly, from its attacking the wheat only when in the herb; beginning its ravages in autumn, reappearing in the spring, and undergoing the metamorphoses already mentioned. "That insect (say the society) whose havoc has been well known in America only since 1776, does not appear to differ from it, as well as we can judge from a very short description of those which have been observed in the north, and of which the history is contained in the different volumes of the academy of sciences of Stockholm. We know that there exist in France caterpillars whose manner of living resembles that of those insects; but the mischief which they do to corn having never been considerable enough to attract the attention of government, and not having been ourselves engaged in following in detail the history of that species of caterpillar, we regret not being able to say any thing particular upon that subject." The rest of the report contains an account of the flying weevil.

6. Further recourse was now had to America for information. The marquis of Caermarthen wrote to Sir John Temple at New York, the British consul ge-

neral; and this gentleman applied to colonel Morgan, who had been more curious with respect to this insect than any other person with whom he was acquainted. His account was, that the Hessian fly was first introduced into America by means of some straw made use of in package, or otherwise landed on Long Island at an early period of the late war; and its first appearance was in the neighbourhood of Sir William Howe's debarkation, and at Flat Bush. From thence it spread in every direction, but at first very slowly; and it was not till the year 1786 that they reached Mr Morgan's farm, situated not quite 50 miles from New York. No damage was done the first season, and very little the second; but in 1788 they were materially damaged, and in some places totally destroyed all round. "The name of *Hessian fly* (says Mr Morgan) was given to this insect by myself and a friend early after its first appearance on Long Island." In a letter to General Washington, dated July 31st 1788, Mr Morgan treats particularly of the insect itself, and mentions several experiments made by himself to oppose its depredations. The result of these was, that good culture of strong soil, or well manured lands, may sometimes produce a crop of wheat or barley, when that sowed on poor or middling soil, without the other advantages, will be totally destroyed. "But (says he) as the insect lives in its aurelia state in straw and litter through the winter, I find that unmixed barnyard manure spread on the land in the spring multiplies the fly to an astonishing degree; hence the farmer will see the necessity of mixing his yard with earth and marle in heaps; adding, where he can do it, a quantity of lime, and changing the heaps, after they have undergone the necessary fermentation, that their parts may be well incorporated, and a new digestion brought on, which will effectually destroy the insect. Rolling of wheat just before the first frosts in autumn, and soon after the last in spring, or before the wheat begins to pipe or spindle, has also a good effect. In the first place, it is a part of good culture; and, secondly, the roller crushes and destroys a great proportion of the insect. Top-dressings of lime, or of live ashes, are useful as manures, and may (when applied about the times I have mentioned as proper for rolling) be offensive to the insect; but if used in sufficient quantity to destroy them, would, I believe, destroy the wheat also. In the year 1782, a particular species of wheat was introduced on Long Island, which is found to resist the fly, and to yield a crop when all other wheats in the same neighbourhood are destroyed by it. But as this wheat has been incautiously sowed in fields with other kinds, it has generally become so mixed by the farmers, as to suffer in its character in proportion to this mixture; insomuch, that some farmers, from inattention to this circumstance, have condemned it altogether. Fortunately, however, some crops have been preserved from this degeneration; and I was so lucky as to procure the whole of my last year's seed of the purest kind; the consequence of which has been a good crop, whilst my neighbours fields, sowed with other kinds of wheat, have been either totally destroyed or materially injured. I have satisfied myself that this species of wheat was brought to New York in 1782; that a cargo of it was then sent to Messrs Underhill's mill to be manufactured into flour; and that, from seed saved out

Hessian
Fly.

Hessian
Fly.

of this parcel, the yellow-bearded wheat was propagated. It is a generally received opinion, that the capacity of the yellow-bearded wheat to resist the attacks of the fly is owing to the hardness or solidity of the straw; but when we reflect that other wheats are sometimes wholly cut off in the fall of the year, and sometimes early in the spring, before the season of its running to straw, we shall be induced to assign some other cause. I cannot point out more than two distinctions of this from other wheats. The first is in the ear, at or after harvest. The obvious difference, then, is in the colour of the chaff. The second can only be observed by the miller, who says, 'this grain requires to be more aired and dried than any other wheat before grinding, or it will not yield its flower so kindly, as it is of a more oily nature; but when thus aired and dried, the quality and quantity of its flour is equal to that of the best white wheat.'

7. In a letter from Mr Wadsworth, dated 22d August 1788, we are informed, that the experiments made with elder juice, recommended as a preventative of this evil by Mr Bond, were fallacious, and had failed in every instance in 1787; but the efficacy of the yellow bearded wheat in resisting the attacks of the fly is confirmed. The progress of the fly northward is likewise confirmed; but we are told that it has disappeared in many places near New York, where it formerly abounded.

8. In consequence of the correspondence between the marquis of Caermarthen and Mr Bond, the latter made very particular inquiry concerning this mischievous insect, and has given a better account of it than any of the above. "The Hessian fly (says he) is a small dark fly, with thin, long, black legs; clear transparent wings, extending far beyond the body of the trunk; with small, though perceptible, horns or feelers projecting from the snout. These I have seen appear in size and shape like a little fly which attacks cheese in this country, and which is very closely watched by the keepers of dairies here, as productive of the worm or skippers which destroy cheese; and it is remarkable, that the worm produced from the egg of the Hessian fly, though rather thinner and longer, bears a strong resemblance to the worm in cheese. The horns which evidently appear on the Hessian fly may be provided by nature as feelers to enable them to perforate hard grain, as well as grain in a softer state; tho' I have not yet seen any person who has perceived the egg, worm, or fly in the grain of the wheat, or who has found any nit, mucus, or even dust in the dry straw, in ricks or barns, to induce a belief that the egg is there deposited after the harvest. One publication, signed a Landholder, goes so far as to favour the idea that the fly even perforates the seed, and deposits its eggs therein. His ideas have been condemned, as tending to mislead others; but by no means confuted either by reason or experiment. An observation I made myself, gave me some cause to apprehend that the idea mentioned in the paper signed a Landholder was founded in fact: Upon examining a barn, in a country wherein the fly had not been known to injure the harvest (though it has now certainly made its appearance there within a few weeks), I observed in the flaws and apertures where the wood was decayed, over which cobwebs were woven, several of these flies entangled

in the webs, many of them dead, but some alive, and struggling to disengage themselves; from hence I concluded that there was a propensity in the fly to get into the mow; but whether with a purpose of mere shelter and nurture, or with a view to deposit its eggs, I am at a loss to decide."

9. Mr Bond now refers to some observations by a Mr Potts and Mr Cleaver, which, with several other papers on the subject, he had inclosed in his letter to the marquis. The former was a farmer in the county of Chester, who stacked his wheat in autumn 1788, at a time when the fly had not been seen in or near that county. About six or seven weeks after the harvest he had occasion to thresh some of his wheat; and with a view to prevent its scattering and wasting, he threw the sheaves from the rick upon a large sheet. On taking up the sheaves to carry them to the threshing-floor, he perceived a great number of flies, answering precisely the description of the Hessian fly, lying upon the sheet, some dead, and others in a torpid state; from whence he concluded that the fly had got a footing in his rick; but from any examination either of the straw or grain, no trace of the eggs being deposited was discovered. Mr Cleaver, a farmer in the same county, apprehending that the fly might approach his neighbourhood, sowed some wheat in his garden, which grew so as to appear above ground in less than a fortnight, when a violent north-east wind came on; and, immediately after he perceived small clouds of flies over and about the wheat he had sown. He examined the grain in a few days; and found that numbers of the flies had deposited their eggs in the heart of the main stalk, and many of them lay dead on the ground where the wheat was sown, and near it. Many of the eggs were found in the stalk; and some small white worms produced from other eggs were lately discovered in the stalk very near the root of the wheat. Wherever these worms were found, the whole of the individual stalk was perceptibly changed in point of colour, tending to a yellowish cast; the top hanging down quite shrunk and withered. In some of the wheat which was carefully examined, the eggs were found within the stalk of a very minute size and whitish colour, with something of a yellow tinge. In those where the worm was formed, it was carefully wrapped up, surrounded by different coats of the shoot in which it lay, as if it had been skilfully and tenderly rolled up for its preservation; around it the stalk was plainly eaten away, some nearly through. The worm strongly resembles the skipper in cheese, somewhat thinner, and rather longer, of a whitish cast. The ground on which this wheat was sown was rich garden ground, high and dry; the natural soil a strong red clay; few of the shoots, of which there were many in one cluster in proportion to their number, were hurt by the fly. This was imputed to the strength of the soil, which producing a robust powerful growth, resisted, in a great degree, the attack of the fly, though the weak shoots suffered generally.

10. A similar account of the Hessian fly is given by Mr Jacobs, an experienced farmer in the county of Montgomery. From his observations the egg is usually deposited in the funnel or sheath a little above the first joint. When the eggs are laid in the autumn or spring,

Hessian
Fly.

Hessian
Fly.Hessian
Fly.

spring, they are utterly destructive of the growth of the wheat; but when they are deposited shortly before the harvest, the grain or even the stalk is scarcely affected, especially in rich ground. The egg, he says, is at first very minute; it grows rapidly, becomes full and large, and turns to a brown hue, in size and colour very like a flax seed. A material difference was also perceived between rich and poor ground with respect to the ravages of the fly; but none between moist and dry soils. He is also of opinion that the yellow-bearded wheat will resist the attacks of the fly; and that rolling and feeding the wheat will be of great service.

11. A farmer in Jersey, who dates his letter from Hunterdon, Jan. 30. 1787, observes, that though the fly is supposed to advance about 15 miles annually, and neither waters nor mountains obstruct its passage; yet when disturbed, he never saw them take a flight of above five or six feet; nevertheless they are so active, that it is very difficult to catch them. They first appear towards the end of September; and soon after their eggs appear hatched, in colour and size like a flax seed: they are very low at the joints; some even in the ground; and here they harbour all winter. On their first appearance in any district, their numbers being small they seldom cut off the crop in this state, which is often the case the second or third year. In the spring, after warm weather, they again appear as a small worm, and destroy the crop. The remedies proposed by this farmer are, sowing upon rich ground elder, and rolling. A gentleman whose account was dated on the first of November 1786, says, that their eggs resemble what is commonly called the *fly-blow* on meat, being very small, and only one in a place. Soon after, the other blades of wheat proceeding from the same kernel inclose the first, the egg is covered, and agreeable to the usual progress of insects arrives at the state of a worm, and descends towards the root, where it consumes the tender blade, sometimes destroying the whole crop in the fall; but if, by reason of the fertility of the soil, and other concurrent circumstances, the vegetation is so rapid as to baffle their efforts, some of the latter-laid eggs, when at the worm state, entrench themselves in the ground to the depth of an inch or more, where he had found them after severe frosts changed from a white to a greenish colour, and almost transparent; from this they proceed to the aurelia state, and thus continue probably in the ground till the spring, when the fly is again produced, which again lays its eggs, and finishes the work begun in the fall, to the total destruction of the crop. Another piece of intelligence he gives, but not from his own observation, that by feeding the wheat very close in the winter and spring, if the land is rich, it will again spring up, and the worms do not much injure the second growth. By another correspondent we are informed, that maritime places are less liable to be infested with the fly than the interior parts of the country; and therefore recommends as an experiment, that fine salt should be sprinkled on the wheat just before, or very soon after, the appearance of the fly. By others, elder has been much recommended, as well as rolling, &c. though the bearded wheat already mentioned seems to be the only effectual remedy.

12. By another communication from Mr Morgan

to the Philadelphia Society for promoting agriculture, he informs us, that he had made himself acquainted with the fly by breeding a number of them from the chrysalis into the perfect state. The fly is at first of a white body with long black legs and whiskers, so small and motionless as not to be easily perceived by the naked eye, though very discernible with a microscope; but they soon become black and very nimble, both on the wing and feet, being about the size of a small ant. During the height of the brood in June, where 50 or 100 of the nits have been deposited on one stalk of wheat, he has sometimes discovered, even with the naked eye, some of them to twist and move on being disturbed: this is while they are white; but they do not then travel from one stalk to another, nor to different parts of the same stalk. The usual time of their spring-hatching from the chrysalis is in May. "Those (says he) who are doubtful whether the fly is in their neighbourhood, or cannot find their eggs or nits in the wheat, may satisfy themselves by opening their windows at night and burning a candle in the room. The fly will enter in proportion to their numbers abroad. The first night after the commencement of wheat harvest, this season, they filled my dining-room in such numbers as to be exceedingly troublesome in the eating and drinking vessels. Without exaggeration I may say, that a glass-tumbler from which beer had been just drank at dinner, had 500 flies in it in a few minutes. The windows are filled with them when they desire to make their escape. They are very distinguishable from every other fly by their horns or whiskers." With regard to the cure, it seems to be confirmed that the sowing of that called the *yellow-bearded wheat* can only be depended upon. The fly indeed will reside in fields of this wheat, and lay its eggs upon the stalks; but no injury was ever known to happen except in one single instance, where it was sown in a field along with the common sort, and that in a very small proportion to it. By another account, however, we are told that the yellow-bearded wheat is equally liable to be destroyed in the autumn with the common kind; so that the only method of securing the crop is by sowing it late in the season, when the fly is mostly over.

13. The utmost pains were taken by the British government to find out whether this destructive insect exists in Germany or any of the northern countries of Europe; but from the accounts received, it appears that it has not hitherto been observed, or at least if it exists, the damage done by it is too inconsiderable to attract notice.

14. From the whole correspondence on this subject, which from the abridgement just now given of it is evidently somewhat discordant, Sir Joseph Banks drew up a report for the privy council, dated March 2. 1789, in which he states the following particulars: 1. The appearance of the fly in Long Island was first observed in 1779. We must suppose this to be meant that its destructive effects became then first perceptible; for it seems undoubtedly to have been known in the year 1776. 2. The opinion of colonel Morgan, that it was imported by the Hessians, seems to be erroneous, as no such insect can be found to exist in Germany or any other part of Europe. 3. Since its

first

Hessian
Fly.

first appearance in Long Island it has advanced at the rate of 15 or 20 miles a-year, and neither waters nor mountains have impeded its progress. It was seen crossing the Delaware like a cloud, from the Fall's Township to Makefield; had reached Saratoga, 200 miles from its first appearance, infesting the counties of Middlesex, Somerset, Huntington, Morris, Sussex, the neighbourhood of Philadelphia, all the wheat counties of Connecticut, &c. committing the most dreadful ravages; attacking wheat, rye, barley, and timothy-grass. 4. The Americans who have suffered by this insect, speak of it in terms of the greatest horror. In colonel Morgan's letter to Sir John Temple, he uses the following expressions. "Were it to reach Great Britain, it would be the greatest scourge that island ever experienced; as it multiplies from heat and moisture, and the most intense frosts have no effect on the egg or aurelia. Were a single straw, containing the insect, egg, or aurelia, to be carried and safely deposited in the centre of Norfolk in England, it would multiply in a few years, so as to destroy all the wheat and barley crops of the whole kingdom. There cannot exist such an atrocious villain as to commit such an act intentionally. 5. No satisfactory account of the mode in which this insect is propagated has hitherto been obtained. Those which say that the eggs are deposited on the stalk from six or eight to 50, and by their growth compress and hinder the stalk from growing, are evidently erroneous, and the authors of them have plainly mistaken the animal itself for its eggs. It is sufficient to remember, that eggs do not grow or increase in bulk, to prove that what they observed was not eggs. 6. The landholder's opinion, that the eggs are deposited on the ripe grains of wheat, though contradicted by colonel Morgan, is not disproved, as the colonel advances no argument against it. 7. A letter dated New York, September 1. 1786, says that the eggs are deposited on the young blade, resembling what we call a *fly-blow* in meat; very small, and but one in a place: but this, though the only natural mode of accounting for the appearance of the insect, had it been true, must undoubtedly have been confirmed by numbers of observations. 8. Even though this should be found hereafter to be the case, there will still remain a danger of the aurelias being beaten off by the flail from the straw in threshing the wheat, and imported into Britain along with it; the presence of these flies in barns having been fully proved by the observations of Messrs Potts and Bond. 9. None of the remedies proposed against this destructive insect have been in any degree effectual, excepting that of sowing the yellow bearded wheat; the straw of which is sufficiently strong to resist the impression of the insect, and even if its eggs are deposited upon it receives little injury in point of produce in grain: this provides, however, no remedy for the loss of the barley crop, nor for that which must be incurred by sowing the yellow-bearded wheat on lands better suited by nature for the produce of other kinds: it appears also that this very kind is liable to degenerate, and probably from a different cause than that proposed by colonel Morgan, viz. the mixture with common wheat. 9. Though the Agricultural Society at Philadelphia, as well as colonel Morgan, have declared their opinions decisively that no danger can arise from wheat import-

ed into Britain, as the insect has no immediate connection with the grain; yet with nearly if not exactly the same materials before him which these gentlemen were furnished with, Sir Joseph Banks could not avoid drawing a conclusion directly contrary; and he concludes his report with the words of Mr Bond in a letter to the marquis of Caermarthen. "Satisfactory as it would be to my feelings to be able to say with precision, that I apprehend no danger of extending the mischief by seed, my duty urges me to declare, that I have not heard or seen any conclusive fact by which I could decide on a matter of such importance; and till that test occurs, the wisdom of guarding against so grievous a calamity is obvious."

On the 27th of April the same year, another paper, by way of appendix to the foregoing, was given in by Sir Joseph Banks. In this he again observes, that none of the descriptions of any European insect hitherto published answer exactly to the Hessian fly. In a letter from Mr Bond to the marquis of Caermarthen, he mentions another kind of insect in the state of Maryland, called by way of eminence *the fly*; and which in some things resembles the Hessian fly, though it cannot be accounted the same. It makes its way into the mow, and bites the ends of the grain perceptibly, and no doubt deposits its eggs in the grain itself; since it has been observed, that wheat recently threshed, and laid in a dry warm place, will soon be covered with an extreme clammy crust, which binds the wheat on the surface together in such a way as to admit its being lifted in lumps; but the wheat beneath will not be hurt to any considerable depth. Such is the quality of this fly, that if the hand be inserted into the heap affected by it, watery blisters are immediately raised; and the farmers and slaves, riding upon bags of this infected wheat, never fail to be severely blistered thereby. "This insect (says he) is called in Maryland the *Revolution fly*, by the friends of the British government; but from all I can learn it is not the same insect which originated on Long Island, and is called the *Hessian fly* (by way of opprobrium) by those who favoured the revolution. All the papers I have read on the Hessian fly are very inaccurate, not to say contradictory; and I am convinced it is by no means a settled point at this moment in what manner and place the eggs of these insects are deposited. The policy which induced government to open the ports being founded on an appearance of a scarcity of corn, that evil may be remedied by the admission of flour instead of grain; and tho' the countries from whence the flour is carried will have the advantage of the manufacture, still that cannot be reckoned as an object, when opposed in the scale to an evil of such immense magnitude as the introduction of so destructive an insect may occasion. The ravages here are beyond conception ruinous. Many farmers have had their crops so completely cut off as to be left without bread-corn or even seed-corn. If the measure of confining the importation to flour alone should be adopted, great attention should be paid to the quality of the flour admitted into the British ports. An infinite deal of the wheat of the last harvest is of a very wretched quality; and stratagems will be practised to give an extensive vent to so essential a staple of the middle states of America."

Hessian
Fly.

Hesychius
Heteroge-
neity.

In another letter to the same nobleman, Mr Bond expresses himself to the following purpose. "I have not been able to collect any decided information which fixes the essential point, how far the insect may be communicated by feed. It is a matter at this time quite undecided here: nor have I heard or observed any very conclusive reason to suppose that the fly makes its way generally into barns and ricks. A very intelligent farmer in the county of Bucks, informed me that it was the prevailing opinion there, and so I found it, that the fly did not either in the field or in the mow affect the grain of the wheat: a neighbour of his, in threshing the little wheat he had saved last harvest, observed the fly rise from the straw in great numbers wherever it was struck by the flail; but though it was at first presumed that the fly had insinuated itself into the mow for the purpose of depositing its eggs in the grain or in the straw, no trace of the egg could be discovered from the appearance of any mucus or dust, either in the grain or in the straw; hence it was inferred that all the mischief was done in the field."

HESYCHIUS, the most celebrated of all the ancient Greek grammarians whose works are now extant, was a Christian; and, according to some, the same with Hesychius patriarch of Jerusalem, who died in 609. He wrote a Greek lexicon; which, in the opinion of Casaubon, is the most learned and useful work of that kind produced by the ancients. Schrevelius published a good edition of it in 1668, in 4to, with notes; but the best is that of John Alberti, printed at Leyden in 1746, in two vols folio.

HETERIARCH, HÆTERIARCHA, in antiquity, an officer in the Greek empire, whereof there were two species; the one called simply *beteriarch*, and the other *great heteriarch*, who had the direction of the former.

The word is Greek, *ἑταίραρχα*, formed of the Greek *ἑταῖρος* *focius*, "companion, ally," and *ἀρχή* *imperium*, "command." Their principal function was to command the troops of the allies; besides which, they had some other duties in the emperor's court, described by Codin. *De Officiis*, cap. 5. n. 30, 31, 32, 37.

HETEROCLITE, HETEROCLITON, in grammar, an irregular or anomalous word, which either in declension, conjugation, or regimen, deviates from the ordinary rules of grammar. The word is Greek, *ἑτεροκλίτων*; formed of *ἕτερος* *alter*, "another, different," and *κλίω*, "I decline."

Heteroclite is more peculiarly applied to nouns which vary or are irregular in point of declension; having fewer cases, numbers, &c. than ordinary; or that are of one declension in one number, and another in another: as, *Hoc vas, vasis; hæc vasa, vasorum*.

HETERODOX, in polemical theology, something that is contrary to the faith or doctrine established in the true church. The word is formed of the Greek *ἑτεροδοξος*; a compound of *ἕτερος* "alter," and *δόξα* "opinion." Thus, we say a *beterodox* opinion, a *beterodox* divine, &c. The word stands in opposition to *orthodox*.

HETEROGENEITY, in physics, the quality or disposition which denominates a thing *heterogeneous*. The word is also used for the heterogeneous parts

themselves; in which sense, the heterogeneities of a body are the same thing with the impurities thereof.

HETEROGENEOUS, or HETEROGENEAL, literally imports something of a different nature, or that consists of parts of different or dissimilar kinds; in opposition to *homogeneous*. The word is Greek; formed of *ἕτερος* *alter*, "different," and *γένος* *genus*, "kind;" *q. d.* composed of different kinds of parts.

HETEROGENEOUS Light, is by Sir Isaac Newton said to be that which consists of rays of different degrees of refrangibility. Thus the common light of the sun or clouds is heterogeneous, being a mixture of all sorts of rays.

HETEROGENEOUS Nouns, one of the three variations in irregular nouns; or such as are of one gender in the singular number, and of another in the plural.—Heterogeneous, under which are comprehended mixed nouns, are six-fold. 1. Those which are of the masculine gender in the singular number, and neuter in the plural; as, *hic tartarus, hæc tartara*. 2. Those which are masculine in the singular number, but masculine and neuter in the plural; as, *hic locus, hi loci & hæc loca*. 3. Such as are feminine in the singular number, but neuter in the plural; as, *hæc carbasus, & hæc carbasæ*. 4. Such nouns as are neuter in the singular number, but masculine in the plural; as, *hoc calum, hi cali*. 5. Such as are neuter in the singular, but neuter and masculine in the plural; as, *hoc rastrum, hi rastri, & hæc rastra*. And, 6. Such as are neuter in the singular, but feminine in the plural number; as, *hoc epulum, hæc epulæ*.

HETEROGENEOUS Quantities, are those which are of such different kind and consideration, as that one of them, taken any number of times, never equals or exceeds the other.

HETEROGENEOUS Surds, are such as have different radical signs; as, $\sqrt{aa}$, and $\sqrt[3]{bb}$; $\sqrt[5]{9}$, and $\sqrt[7]{19}$.

HETEROSCII, in geography, a term of relation, denoting such inhabitants of the earth as have their shadows falling but one way, as those who live between the tropics and polar circles; whose shadows at noon in north latitude are always to the northward, and in south latitude to the southward.

HETH, the father of the Hittites, was the eldest son of Canaan (Gen. x. 15.), and dwelt southward of the promised land, at Hebron or thereabouts. Ephron, an inhabitant of Hebron, was of the race of Heth, and this whole city in Abraham's time was peopled by the children of Heth. There are some who maintain that there was a city called Heth, but we find no footsteps of it in the scripture.

HETRURIA, and ETRURIA, a celebrated country of Italy, at the west of the Tyber. It originally contained 12 different nations, which had each their respective monarch. Their names were Veientes, Clusini, Perusini, Cortoneses, Arretini, Vetuloni, Volaterrani, Rusellani, Volscinii, Tarquinii, Falisci, and Cæretani. The inhabitants were particularly famous for their superstition and strict confidence in omens, dreams, auguries, &c. They all proved powerful and resolute enemies to the rising empire of the Romans, and were conquered only after much effusion of blood.

HEVÆI (anc. geog.), one of the seven people who occupied Canaan; a principal and numerous people, and the same with the *Kadmonai*, dwelling at the foot of Hermon.

Heteroge-
neous
||
Hevæi.

Heuchera
||
Heusden.

Hermon and partly of Libanus, or between Libanus and Hermon (Judges iii. 3.) To this Bachart refers the fables concerning Cadmus and his wife Harmonia, or Hermonia, changed to serpents; the name *Hevi* denoting a wild beast, such as is a serpent. Cadmus, who is said to have carried the use of letters to Greece, seems to have been a Kadmonean; of whom the Greeks say that he came to their country from Phœnicia.

HEUCHERA, in botany; a genus of the digynia order, belonging to the pentandria class of plants. There are five petals; the capsule is birostrated and bilocular.

HEVELIUS, or HEVELKE, (John), an eminent astronomer, was born at Dantzic in 1611. He studied in Germany, England, and France, and every where obtained the esteem of the learned. He was the first that discovered a kind of libration in the moon, and made several important observations on the other planets. He also discovered several fixed stars, which he named the *firmament of Sobieski*, in honour of John III. king of Poland. His wife was also well skilled in astronomy, and made a part of the observations published by her husband. In 1673 he published a description of the instruments with which he made his observations, under the title of *Machina Cœlestis*: and in 1679 he published the second part of this work; but in September the same year, while he was at a seat in the country, he had the misfortune to have his house at Dantzic burnt down. By this calamity he is said to have sustained a loss of several thousand pounds; having not only his observatory and all his valuable instruments and apparatus destroyed, but also a great number of copies of his *Machina Cœlestis*; which accident has made this second part very scarce, and consequently very dear. In the year 1690 were published *Firmamentum Sobiescianum*, and *Prodromus astronomiæ & novæ tabulæ solares, una cum catalogo fixarum*, in which he lays down the necessary preliminaries for taking an exact catalogue of the stars. But both these works are posthumous; for Hevelius died in 1687, on his birth-day, aged 76. He was a man greatly esteemed by his countrymen, not only on account of his great reputation and skill in astronomy, but as a very excellent and worthy magistrate. He was made a burgo-master of Dantzic; which office he is said to have executed with the utmost integrity and applause. He was also very highly esteemed by foreigners; and not only by those skilled in astronomy and the sciences, but by foreign princes and potentates: as appears abundantly from a collection of their letters which were printed at Dantzic in the year 1683.

HEURNIUS, or VAN HEURN, (John), a learned physician, was born at Utrecht in 1543; and studied at Louvain, Paris, Padua, and Pavia. At his return to his native country he became magistrate of Amsterdam; after which he was professor of physic at Leyden, and rector of the university of that city, where he died in 1601. He wrote, among other works, several treatises on the diseases of different parts of the body, and several commentaries on the works of Hippocrates.—*Otho Heurnius* his son was also professor of physic at Leyden, and wrote some books.

HEUSDEN, a strong town of the United Provinces, in Holland, seated on the river Maese, among
N^o 153.

marshes, with a handsome castle, in E. Long. 5. 3. N. Lat. 51. 47. Hewson || Hexapla.

HEWSON (William), a very ingenious anatomist, was born in 1739. He became assistant to Dr Hunter, and was afterwards in partnership with him; but, on their disagreement, read anatomical lectures at his own house (in which he was seconded by Mr Falconer). He wrote *Inquiries into the Properties of the Blood, and the Lymphatic System*, 2 vols; and disputed with Dr Monro the discovery of the lymphatic system of vessels in oviparous animals. He died in 1774.

HEXACHORD, in ancient music, a concord called by the moderns a *sixth*.

HEXAGON, in geometry, a figure of six sides and angles; and if these sides and angles are equal, it is called a *regular hexagon*.

HEXAHEDRON, in geometry, one of the five platonic bodies, or regular solids, being the same with a cube.

HEXAMETER, in ancient poetry, a kind of verse consisting of six feet; the first four of which may be indifferently either spondees or dactyles; the fifth is generally a dactyl and the sixth always a spondee. Such is the following verse of Horace:

1 2 3 4 5 6
Aut pro|desse vo|lunt, aut| dele|tare po|eta.

HEXAMILION, HEXAMILI, or *Hexamilium*, a celebrated wall, built by the emperor Emanuel in 1413 over the isthmus of Corinth. It took its name from *ἕξ* *fix*, and *μῖλον*, which in the vulgar Greek signifies a *mile*, as being six miles long.

The design of the hexamilion was to defend Peloponnesus from the incursions of the barbarians. Amurath II. having raised the siege of Constantinople in the year 1424, demolished the hexamilium, though he had before concluded a peace with the Greek emperor. The Venetians restored it in the year 1463, by 30,000 workmen, employed for 15 days, and covered by an army commanded by Bertoldo d'Este general of the land forces, and Louis Loredano commander of the sea.—The infidels made several attempts upon it; but were repulsed, and obliged to retire from the neighbourhood thereof: but Bertoldo being killed at the siege of Corinth, which was attempted soon after, Bertino Calcinato, who took on him the command of the army, abandoned, upon the approach of the beglerbeg, both the siege and the defence of the wall which had cost them so dear; upon which it was finally demolished.

HEXANDRIA, in botany, (from *ἕξ* *fix*, and *ἄνθρωπος* *a man*); the name of the sixth class in Linnæus's sexual method, consisting of plants with hermaphrodite flowers, which are furnished with six stamina or male organs, that are of an equal length. See BOTANY, p. 430.

HEXAPLA (formed of *ἕξ* *fix*, and *ἄνω* *I open, I unfold*), in church-history, a Bible disposed in six columns; containing the text, and divers versions thereof, compiled and published by Origen, with a view of securing the sacred text from future corruptions, and to correct those that had been already introduced.

Eusebius, Hist. Eccl. lib. vi. cap. 16. relates, that Origen, after his return from Rome under Caracalla, applied himself to learn Hebrew, and began to collect the several versions that had been made of the sacred writings,

Hexapla. writings, and of these to compose his Tetrapla and Hexapla; others, however, will not allow him to have begun till the time of Alexander, after he had retired into Palestine, about the year 231.

To conceive what this Hexapla was, it must be observed, that, besides the translation of the sacred writings, called the Septuagint, made under Ptolemy Philadelphus, above 280 years before Christ, the Scripture had been since translated into Greek by other interpreters. The first of those versions, or (reckoning the Septuagint) the second, was that of Aquila, a proselyte Jew, the first edition of which he published in the 12th year of the emperor Adrian, or about the year of Christ 128; the third was that of Symmachus, published, as is commonly supposed, under Marcus Aurelius, but, as some say, under Septimius Severus, about the year 200; the fourth was that of Theodotion, prior to that of Symmachus, under Commodus, or about the year 175. These Greek versions, says Dr Kennicott, were made by the Jews from their corrupted copies of the Hebrew, and were designed to stand in the place of the Seventy, against which they were prejudiced, because it seemed to favour the Christians. The fifth was found at Jericho, in the reign of Caracalla, about the year 217; and the sixth was discovered at Nicopolis, in the reign of Alexander Severus, about the year 228: lastly, Origen himself recovered part of a seventh, containing only the Psalms.

Now Origen, who had held frequent disputations with the Jews in Egypt and Palestine, observing that they always objected against those passages of Scripture quoted against them, and appealed to the Hebrew text; the better to vindicate those passages, and confound the Jews by showing that the Seventy had given the sense of the Hebrew, or rather to show by a number of different versions what the real sense of the Hebrew was, undertook to reduce all these several versions into a body along with the Hebrew text, so as they might be easily confronted, and afford a mutual light to each other.

He made the Hebrew text his standard; and allowing that corruptions might have happened, and that the old Hebrew copies might and did read differently, he contented himself with marking such words or sentences as were not in his Hebrew text, nor the later Greek versions, and adding such words or sentences as were omitted in the Seventy, prefixing an asterisk to the additions, and an obelisk to the others.

In order to this, he made choice of eight columns: in the first he gave the Hebrew text in Hebrew characters; in the second the same text in Greek characters; the rest were filled with the several versions above-mentioned; all the columns answering verse for verse, and phrase for phrase; and in the Psalms there was a ninth column for the seventh version.

This work Origen called *Ἑξαπλά Hexapla*, q. d. *sex-tuple*, or work of six columns, as only regarding the first six Greek versions. See **TETRAPLA**.

Indeed, St Epiphanius, taking in likewise the two columns of the text, calls the work *Ὀκτάπλα*, as consisting of eight columns.

This celebrated work, which Montfaucon imagines consisted of fifty large volumes, perished long ago, probably with the library at Cæsarea, where it was preserved, in the year 653; though several of the ancient writers have preserved us pieces thereof: parti-

cularly St Chrysostom on the Psalms, Philoponus in his Hexameron, &c. Some modern writers have earnestly endeavoured to collect fragments of the Hexapla, particularly Flaminius Nobilius, Drusius, and F. Montfaucon, in two folio volumes, printed at Paris in 1713.

HEXASTYLE, in architecture, a building with six columns in front.

HEXHAM, a town of Northumberland, situated near the conflux of the north and south Tyne. It is commonly reckoned to be the *Alexodunum* of the Romans, where the first cohort of the Spaniards were in garrison. It was made a bishop's see by Etheldreda, wife of king Egfred, in the year 675. Its first bishop St Wilfred built here a most magnificent cathedral and monastery, and it was possessed by seven bishops successively; but being very much infested by the Danes, the see was removed to York. The town and priory were destroyed by the Scots in 1296, and pillaged again in 1346. There was a remarkable and bloody battle fought near this town between the houses of Lancaster and York, wherein the former were defeated, chiefly by the extraordinary bravery and conduct of John Nevil, lord Montacute, who was for that reason created earl of Northumberland. The present town is not populous, and the streets are narrow, with ill-built houses. The market-place, near the centre of the town, is a spacious square, it is supplied by a fountain with water. Among the remains of ancient structures is a gateway of Saxon architecture, leading to the priory, but of a much older date. There are two ancient towers in the town, one of which is used as a sessions-house, and was formerly an exploratory tower; the other is on the top of a hill towards the Tyne, of remarkable architecture, which has been much higher than at present, and has two dungeons within it, besides several chambers with very little narrow windows. The town has a charity or grammar school. It was in 1571 annexed to the county of Cumberland: but only in civil matters; for its ecclesiastical jurisdiction is not the same with the rest of the county, it being still a peculiar belonging to the archbishop of York; and the vulgar still call the neighbouring country Hexhamshire. It is a corporation governed by a bailiff chosen yearly. Newcastle is about 15 miles distance. The markets here are Tuesday and Saturday; fairs on August 5. and November 8. A rivulet, called Hexbold, runs by the town, which sometimes overflows suddenly.

HEYDON, a little, pleasant, well-built town of Yorkshire, in that part called *Holderness*, seated on a river that falls into the Humber. It has now but one church, tho' there are the remains of two more; and had formerly a considerable trade, which is now lost, on account of its being so near Hull. The houses being rebuilt, adds to the beauty of the place. It is a corporation; and is governed by a mayor, a recorder, nine aldermen, and two bailiffs, who have the power of choosing sheriffs, and are justices of the peace. It sends two members to parliament. W. Long. o. 55. N. Lat. 53. 46.

HEYDON (John), who sometimes assumed the name of *Eugenius Theodidactus*, was a great pretender to skill in the Rosicrucian philosophy and the celestial signs, in the reign of king Charles I.; and wrote a considerable number of chemical and astrological works, with

Hexastyle
||
Heydon.

Heylin,
Heywood.

very singular titles. This ridiculous author was much resorted to by the duke of Buckingham, who was infatuated with judicial astrology. He employed him to calculate the king's and his own nativity, and was assured that his stars had promised him great things. The duke also employed Heydon in some treasonable and seditious practices, for which he was sent to the Tower. He lost much of his former reputation by telling Richard Cromwell and Thurloe, who went to him disguised like cavaliers, that Oliver would infallibly be hanged by a certain time; which he out-lived several years.

HEYLIN (Dr Peter), an eminent English writer, was born at Burford, in Oxfordshire, in 1600. He studied at Hart Hall, Oxford; where he took his degrees in arts and divinity, and became an able geographer and historian. He was appointed one of the chaplains in ordinary to King Charles I. was presented to the rectory of Hemingford in Huntingdonshire, made a prebendary of Westminster, and obtained several other livings: but of these he was deprived by the parliament, who also sequestered his estate; by which means he and his family were reduced to great necessity. However, upon the restoration, he was restored to his spiritualities; but never rose higher than to be subdean of Westminster. He died in 1662; and was interred in St Peter's church in Westminster, where he had a neat monument erected to his memory. His writings are very numerous: the principal of which are, 1. *Microcosmus*, or a Description of the Great World. 2. *Cosmographia*. 3. The History of St George. 4. *Ecclesia Vindicata*, or the Church of England Justified. 5. Historical and Miscellaneous Tracts, &c.

HEYWOOD (John), one of our most ancient dramatic poets, was born at North-Mims, near St Alban's in Hertfordshire, and educated at Oxford. From thence he retired to the place of his nativity; where he had the good fortune to become acquainted with Sir Thomas More, who, it seems, had a seat in that neighbourhood. This patron of genius introduced our comic poet to the princess Mary, and afterwards to her father Henry, who, we are told, was much delighted with his wit and skill in music, and by whom he was frequently rewarded. When his former patroness, queen Mary, came to the crown, Heywood became a favourite at court, and continued often to entertain her majesty, *exercising his fancy before her, even to the time that she lay languishing on her deathbed*. On the accession of Elizabeth, being a zealous Papist, he thought fit to decamp, with other favourites of her deceased majesty. He settled at Mechlin in Flanders, where he died in the year 1565.—John Heywood was a man of no great learning, nor were his poetical talents by any means extraordinary; but he possessed talents of more importance in the times in which he lived, namely, the talents of a jester. He wrote several plays; 500 epigrams; *A Dialogue in Verse concerning English Proverbs*; and *The Spider and Fly, a Parable*, a thick 4to. Before the title of this last work is a whole-length wooden print of the author; who is also represented at the head of every chapter in the book, of which there are 77.—He left two sons, who both became Jesuits and eminent men: *viz.* Ellis Heywood, who continued some time at Florence under the patronage of cardinal Pole, and became so good a

master of the Italian tongue, as to write a treatise in that language, intitled *Il Moro*; he died at Louvain about the year 1572. His other son was Jasper Heywood, who was obliged to resign a fellowship at Oxford on account of his immoralities: he translated three tragedies of Seneca, and wrote various poems and devises; some of which were printed in a volume intitled *The Paradise of Dainty Devises*, 4to, 1573. He died at Naples in 1597.

HEYWOOD (Eliza), one of the most voluminous novel writers this island ever produced; of whom we know no more than that her father was a tradesman, and that she was born about the year 1696. In the early part of her life, her pen, whether to gratify her own disposition or the prevailing taste, dealt chiefly in licentious tales, and memoirs of personal scandal: the celebrated *Atalantis* of Mrs Manley served her for a model; and *The Court of Carimania*, *The new Utopia*, with some other pieces of a like nature, were the copies her genius produced. She also attempted dramatic writing and performance, but did not succeed in either. Whatever it was that provoked the resentment of Pope, he gave full scope to it by distinguishing her as one of the prizes to be gained in the games introduced in honour of Dullness, in his *Dunciad*. Nevertheless, it seems undeniable, that there is much spirit, and much ingenuity, in her manner of treating subjects, which the friends of virtue may perhaps wish she had never meddled with at all. But, whatever offence she may have given to delicacy or morality in her early works, she appears to have been soon convinced of, and endeavoured to atone for, in the latter part of her life; as no author then appeared a greater advocate for virtue. Among her riper productions may be specified, *The Female Spectator*, 4 vols; *The history of Miss Betsy Thoughtless*, 4 vols; *Jemmy and Jenny Jessamy*, 3 vols; *The invisible spy*, 4 vols; with a pamphlet, intitled *A present for a servant-maid*. She died in 1759.

HIAMEN, or EMOUY. See EMOUY.

HIATUS, properly signifies an opening, chasm, or gap; but it is particularly applied to those verses where one word ends with a vowel, and the following word begins with one, and thereby occasions the mouth to be more open, and the sound to be very harsh.

The term *hiatus* is also used in speaking of manuscripts, to denote their defects, or the parts that have been lost or effaced.

HIBISCUS, SYRIAN MALLOW: A genus of the polyandria order, belonging to the monodelphia class of plants; and in the natural method ranking under the 37th order, *Columnifera*. The calyx is double, the exterior one polyphyllous, the capsule quinquelocular and polyspermous.

Species. Of this genus there are 36 species; the most remarkable are, 1. The Syriacus, commonly called *althæa frutex*, is a native of Syria. It rises with shrubby stalks to the height of eight or ten feet, sending out many woody branches covered with a smooth grey bark, garnished with oval spear-shaped leaves, whose upper parts are frequently divided into three lobes. The flowers come out from the wings of the stalk at every joint of the same year's shoot. They are large, and shaped like those of the mallow, having five large roundish petals which join at their base, spreading open at the top, in the shape of an open bell.

Heywood
Hibiscus.

Hibiscus, bell. These appear in August; and if the season is not too warm, there will be a succession of flowers till September. The flowers are succeeded by short capsules, with five cells, filled with kidney-shaped seeds; but unless the season proves warm, they will not ripen in this country. Of this species there are four or five varieties, differing in the colour of their flowers: the most common hath pale purple flowers with dark bottoms; another hath bright purple flowers with black bottoms; a third hath white flowers with purple bottoms; and a fourth variegated flowers with dark bottoms. There are also two with variegated leaves, which are by some much esteemed. All these varieties are very ornamental in a garden. 2. The *Rosa Sinensis*, with an arborescent stem, and egg-pointed sawed leaves. It is a native of the East Indies, whence it has got the name of *China rose*; but the seeds having been carried by the French to their West India settlements, it hath thence obtained the name of *Martinico rose*. Of this there are the double and single flowering kinds; the seeds of the first frequently produce plants that have only single flowers, but the latter seldom vary to the doublekind. 3. The *mutabilis*, or changeable rose, has a soft spongy stem, which by age becomes ligneous and pithy. It rises to the height of 12 or 14 feet, sending out branches towards the top, which are hairy, garnished with heart-shaped leaves, cut into five acute angles on their borders, and slightly sawed on their edges; of a lucid green on their upper side, but pale below. The flowers are produced from the wings of the leaves; the single are composed of five petals which spread open, and are at first white, but afterwards change to a blush rose colour, and as they decay turn purple. In the West Indies, all these alterations happen on the same day, and the flowers themselves are of no longer duration; but in Britain the changes are not so sudden. The flowers are surrounded by short, thick, blunt, capsules, which are very hairy; having five cells, which contain many small kidney-shaped seeds, having a fine plume of fibrous down adhering to them. 4. The *albemoschus*, or musk-seeded *hibiscus*, is a native of the West Indies, where the French cultivate great quantities of it. The plant rises with an herbaceous stalk three or four feet high, sending out two or three side-branches, garnished with large leaves cut into six or seven acute angles, sawed on their edges, having long footstalks, and placed alternately. The stalks and leaves of this sort are very hairy. The flowers come out from the wings of the leaves upon pretty long footstalks which stand erect. They are large, of a sulphur colour, with purple bottoms; and are succeeded by pyramidal five-cornered capsules, which open in five cells, filled with large kidney-shaped seeds of a very musky odour. 5. The *tiliaceus*, or maho-tree, is a native of both the Indies. It rises with a woody, pithy stem, to the height of ten feet, dividing into several branches towards the top, which are covered with a woolly down, garnished with heart-shaped leaves ending in acute points. They are of a lucid green on their upper side, and hoary on the under side, full of large veins, and are placed alternately. The flowers are produced in loose spikes at the end of the branches, and are of a whitish-yellow colour. They are succeeded by short acuminate capsules, opening

in five cells, filled with kidney-shaped seeds. 6. The *trionum*, Venice mallow, or flower of an hour, is a native of some parts of Italy, and has long been cultivated in the gardens of this country. It rises with a branching stalk a foot and an half high, having many short spines, which are soft and do not appear unless closely viewed: the leaves are divided into three lobes, which are deeply jagged almost to the midrib. The flowers come out at the joints of the stalks, upon pretty long foot-stalks. They have a double empalement; the outer being composed of ten long narrow leaves, which join at their base: the inner is of one thin leaf swollen like a bladder, cut into five acute segments at the top, having many longitudinal purple ribs, and is hairy. Both these are permanent, and inclose the capsule after the flower is past. The flower is composed of five obtuse petals, which spread open at the top; the lower part forming an open bell-shaped flower. These have dark purple bottoms, but are of a pale sulphur colour above. In hot weather the flowers continue but a few hours open; however, there is a succession of flowers that open daily for a considerable time. 7. The *esculentus*, or eatable *hibiscus*, rises to five or six feet; has broad five-parted leaves, and yellow large flowers. The pod or okra is from two to six inches long, and one inch diameter. When ripe, it opens longitudinally in five different places, and discharges a number of heart-shaped seeds.

Culture. The first sort may be propagated either by seeds or cuttings. The seeds may be sown in pots filled with light earth about the latter end of March, and the young plants transplanted about the same time next year. They will succeed in the full ground; but must be covered in winter whilst young, otherwise they are apt to be destroyed. The second, third, fifth, and seventh sorts are propagated by seeds, which must be sown in a hot-bed. The young plants are to be transplanted into small separate pots, and treated like other tender vegetables, only allowing them a good share of air. The fourth sort is annual in this country, though biennial in those places where it is native. It is propagated by seeds, and must be treated in the manner directed for *Amaranth*. The sixth sort is propagated by seeds, which should be sown where the plants are designed to remain, for they do not bear transplanting well. They require no other culture than to be kept free from weeds, and thinned where they are too close; and if the seeds are permitted to scatter, the plants will come up fully as well as if they had been sown.

Uses. The fourth sort is cultivated in the West Indies by the French for the sake of its seeds. These are annually sent to France in great quantities, and form a considerable branch of trade, but the purposes which they answer are not certainly known. The inner rind of the fifth sort is very strong, and of great esteem, which the following recital from Dampier may serve to illustrate: They (the Musketo Indians) make their lines, both for fishing and striking, with the bark of Maho, which is a sort of tree or shrub that grows plentifully all over the West Indies, and whose bark is made up of strings or threads very strong; you may draw it off either in flakes or small threads, as you have occasion.—It is fit for any manner of cordage, and pri-

Hibiscus.

Hicetas vateers often make their rigging of it. See further the article **BARK**.

Hidalgo.

The seventh sort is a native of the West Indies, where it is cultivated in gardens and inclosures as an article of food.—The whole of it is mucilaginous, especially the pods. “These (Dr Wright informs us) are gathered green, cut into pieces, dried, and sent home as presents, or are boiled in broths or soups for food. It is the chief ingredient in the celebrated pepper-pot of the West Indies, which is no other than a rich olla: the other articles are either flesh meat, or dried fish and capicum. This dish is very palatable and nourishing.—As a medicine okra is employed in all cases where emollients and lubricants are indicated.”

HICETAS of Syracuse, an ancient philosopher and astronomer, who taught that the sun and stars were motionless, and that the earth moved round them. This is mentioned by Cicero, and probably gave the first hint of the true system to Copernicus. He flourished 344 B. C.

HICKES (George), an English divine of extraordinary parts and learning, born in 1642. In 1681 he was made king's chaplain, and two years after dean of Worcester. The death of Charles II. stopped his farther preferment; for though his church principles were very high, he manifested too much zeal against Popery to be any favourite with James II. On the revolution, he with many others was deprived for refusing to take the oaths to king William and queen Mary; and soon after, archbishop Sancroft and his colleagues considering how to maintain episcopal succession among those who adhered to them, Dr Hickes carried over a list of the deprived clergy to king James; and with his sanction a private consecration was performed, at which it is said lord Clarendon was present. Among others, Dr Hickes was consecrated suffragan bishop of Thetford, and died in 1715.—He wrote, 1. *Institutiones Grammaticae Anglo-Saxonicae, et Maso-Gothicae.* 2. *Antiqua literatura septentrionalis.* 3. Two treatises, one of the Christian priesthood, the other of the dignity of the episcopal order. 4. *Jovian*, or an answer to Julian the apostate. 5. Sermons; with many temporary controversial pieces on politics and religion.

HICKCUP, or **HICCUGH**, a spasmodic affection of the stomach, œsophagus, and muscles subservient to deglutition, arising sometimes from some particular injury done to the stomach, œsophagus, diaphragm, &c. and sometimes from a general affection of the nervous system. See (the *Index* subjoined to) **MEDICINE**.

HIDAGE (*Hidagium*), was an extraordinary tax payable to the kings of England for every hide of land. This taxation was levied not only in money, but in provision, armour, &c.; and when the Danes landed in Sandwich in 994, king Ethelred taxed all his lands by hides; so that every 310 hides found one ship furnished, and every eight hides furnished one jack and one saddle, to arm for the defence of the kingdom, &c.—Sometimes the word *hidage* was used for the being quit of that tax: which was also called *hidegild*; and interpreted, from the Saxon, “a price or ransom paid to save one's skin or hide from beating.”

HIDALGO, in modern history, a title given in Spain to all who are of noble family.

The *Hidalgos* claim a descent from those valiant sol-

diers who retired into Castile, and the mountains of Asturias, and other remote parts of Spain, on the invasion of the Moors, where having fortified themselves, they successively descended into the plains, in proportion to the success of their arms: from the notoriety of their persons, or the lands they became possessed of, they acquired the appellation of *Hidalgos notorios*, *Hidalgos de solar conocido*, or *de casa solariega*. Of these, according to Hernando Mexia, there are three sorts; the first being lords of places, villages, towns, or castles, from whence they took their surnames, as the Guzmans, Mendozas, Laras, Guivaras, and others; the second, who recovered any fortresses from the Moors, as the Ponces of Leon, and others; and the third sort, from the places where they resided, or held jurisdiction, as Rodrigo de Narvaez was called of Antequera, from being Alcayde there. But this definition is not considered as exact or conclusive by Otalora, another civilian, who says that the true meaning of *Hidalgos de solar conocido* is explained by the laws of Castile to be a well known mansion or possession, the nature of which is particularly explained in the laws of *Parditas*, lib. 5. tit. 35. which describe three sorts of tenures called *Devisa*, *Solariega*, and *Behetria*. By the first, lands are devised by the ancestor; *solar* is a tenure upon another person's manor, and obliges the owner to receive the lord of the fee when necessity obliges him to travel; and *Behetria* is in the nature of an *allodium*. In proportion as these Aborigines gained ground on the Moors, and increased in their numbers, many private persons distinguished themselves by their valour, and obtained testimonies of their services, called *cartas de merced*, which served them as a foundation of their birth and good descent, without which documents their posterity could not make it appear; and if from a lapse of time, or other unavoidable accidents, such proof should happen to be lost or destroyed, the law affords them a remedy under these circumstances, by a declaration, importing, that such persons as are supposed to have had such certificates, may be relieved by making it appear that their ancestors, time immemorial, have always been held and reputed as *Hidalgos*, and enjoyed the privileges of such, from a strong presumption in their favour; the possession of land having equal force to any other document; which is fully set forth in the *Pragmatica* of Cordova. To these executory letters are granted, *cartas executorias*, expressive of their privileges; and for the better regulation of these matters, proper officers are appointed in the chancery courts, called *alcaldes de lor hidalgos*, who ought to be *hidalgos* themselves, and hold jurisdiction in these cases, and no others: but even here innovations have taken place; for as these grants flow from the sovereign, who is the fountain of honour, some are declared *Hidalgos de sangre*, by right of descent, and others *de privilegio*, or by office, in which the will of the sovereign has made amends for any deficiency of blood.

There is a set of people near Segovia, at a place called Zamarramala, who are exempt from tribute on account of the care they take in sending proper persons every night to the castle of Segovia to keep centinel—one cries out *Vela, vela, hao*, and the other blows a horn, from whence they have been titled *hidalgos by the horn*. In Catalonia those gentlemen who

are

Hidalgo.

are styled *Hombre de Pareja*, are considered the same as *hidalgos* in Castile, and were so called from the word *parejar*, to equip, this name being given as a distinction by Borelo the 4th count of Barcelona, at the siege of that city, in 965, who summoning all his vassals to come to his assistance against the Moors, nine hundred horsemen well mounted and equipped joined him, and with their aid he took the city; and this appellation has been given in honourable remembrance of this loyal action.

These noble *hidalgos* enjoy many privileges and distinctions; of which the following are the principal.

1. The first and greatest privilege which they hold by law is to enjoy all posts of dignity and honour in the church and state, with liberty, when churchmen, of having a plurality of benefices. They are qualified for receiving all orders of knighthood, and are to be preferred in all embassies, governments, and public commissions.

2. When they are examined as witnesses in civil and criminal cases, their depositions are to be taken in their own houses, without being obliged to quit them to go to those of others.

3. In all churches, processions, and other public acts or assemblies, they are to have the next place of honour and precedence after the officers of justice, conforming themselves to particular customs.

4. They are not obliged to accept of any challenge for combat, supposing such were allowed of, but from those who are their equals.

5. Though it is forbidden to guardians to purchase the estates of minors, this does not extend to *Hidalgos*, in whom the law does not suppose any fraud, and they may purchase them publicly.

6. They are permitted to be seated in courts of justice in presence of the judges, from the respect and honour due to them. They have also seats in the courts of chancery, in consideration of their birth, which gives them a right to be near the persons of princes.

7. Their persons are free from arrest for debt, nor can any attachment be laid on their dwelling-houses, furniture, apparel, arms, horses, or mules in immediate use: nor can they make a cession of their estates, nor be distressed in suits of law, farther than their circumstances will admit of, but are to be allowed a reasonable and decent maintenance for their support.

8. In cases of imprisonment for criminal matters, they are to be treated differently from others. They are generally confined to their own houses with a safe guard, or under arrest upon their honour, or allowed the city or town they lived in, and in particular cases are sent into castles.

9. When punishments are inflicted for criminal cases, they are to be less severe to them than to others, as they are not to suffer ignominious punishments, such as public shame, whipping, galleys, nor are they to be hanged, but beheaded, excepting in cases of treason or heresy. In cases that do not imply a corporal punishment but a pecuniary one, they are treated with more rigour, and pay a larger fine than others.

10. They are not to be put to the rack or torture, excepting for such heinous crimes as are particularly specified by the laws.

11. When there are title-deeds or other writings or papers in which two or more persons have an equal right or property, and require a particular charge, they are to be given up by preference to the custody of an *Hidalgo*, if any of the parties are such.

12. The daughter of an *Hidalgo* enjoys every privilege of her birth, though married to a commoner; and a woman who is not an *Hidalgo* enjoys all these privileges when she is a widow, following the fortune of her husband.—But if the widow is an *Hidalgo*, and the late husband was a commoner, she falls into the state of her husband after his death, though she had the privileges of her birth during his life.

13. They are free from all duties, called *Pechos*, *Pedidos*, *Monedas*, *Marteniegas*, *Contribuciones*, as well royal as civil, and all other levies of whatever kind they may be, with a reserve for such as are for the public benefit, in which they are equally concerned, such as the repairing the highways, bridges, fountains, walls, destruction of locusts, and other vermin.

14. They are free from personal service, and from going to the wars, excepting when the king attends in person; even then they are not to be forced, but invited, and acquainted that the royal standard is displayed.

15. No persons whatever can be quartered upon, or lodged in their houses, except when the king, queen, prince or infant are on the road, as in such cases even the houses of the clergy are not exempt.

16. They cannot be compelled to accept of the office of receiver of the king's rents, or any other employment which is considered as mean and derogatory to their dignity and rank.

17. By a particular custom confirmed by royal authority in that part of Castile beyond the Ebro, bastards succeed to their parents, and enjoy their honours contrary to the royal and common law.

18. If a lady, who marries a commoner, should be a queen, duchess, marchioness, or countess (for they have no barons in Castile), she not only does not lose her rank, but conveys her titles to her husband, who holds them in right of his wife.

These are the general privileges which the *Hidalgos* enjoy; there are some others of less consequence, as well as particular grants to certain persons and families. An ancient and ridiculous custom is said to be observed by noble ladies who are widows of plebeians, in order to recover their birthright, for which purpose they carry a pack-saddle on their shoulders to their husband's grave, then throwing it down and striking it three times, say, 'Villein, take thy villeiny, for I will abide by my nobility:' and then they recover their privileges again.

HIDE, the skin of beasts; but the word is particularly applied to those of large cattle, as bullocks, cows, horses, &c.

Hides are either raw or green, just as taken off the carcase; salted, or seasoned with salt, alum, and saltpetre, to prevent their spoiling; or curried and tanned. See **TANNING**.

HIDE of Land, was such a quantity of land as might be ploughed with one plough within the compass of a year, or as much as would maintain a family; some call it 60, some 80, and others 100 acres.

HIDE Bound. See **FARRIERY**, §. xxiii.

HIERACIUM.

Hidalgo;
Hide.

Hieracium
Hierapolis.

HIERACIUM, HAWKWEED: A genus of the polygamia æqualis order, belonging to the syngenesia class of plants; and in the natural method ranking under the 49th order, *Compositæ*. The receptacle is naked, the calyx imbricated and ovate; the pappus simple and sessile.

Species. 1. The aurantiacum, commonly called *grim the collier*, hath many oblong oval entire leaves, crowning the root; an upright, single, hairy, and almost leafless stalk, a foot high, terminated by reddish orange-coloured flowers in a corymbus. These flowers have dark oval ash-coloured calices; whence the name of *grim the collier*. 2. The pilosella or mouse-ear, hath blossoms red on the out-side, and pale yellow within; the cups set thick with black hairs. The flowers open at eight in the morning, and close about two in the afternoon. 3. The umbellatum grows to the height of three feet, with an erect and firm stalk, terminated with an umbel of yellow flowers.

Culture. The first is the only species cultivated in gardens. It is propagated by seeds, or parting the roots. The seed may be sown in autumn or spring. In June, when the plants are grown two or three inches high, they may be picked out and planted in beds, where they must remain till the next autumn, and then transplanted where they are to remain.

Properties. The second species is commonly in dry pastures in England; it has a milky juice, but is less bitter and astringent than is usual with plants of that class. It is reckoned hurtful to sheep. An insect of the cochineal genus (*Coccus Polonicus*) is often found at the roots, (*Ad. Upsal. 1752.*) Goats eat it; sheep are not fond of it; horses and swine refuse it.—The third species is a native of Scotland, and grows in rough stony places, but is not very common. The flowers are sometimes used for dying yarn of a fine yellow colour.

HIERACITES, in church-history, Christian heretics in the third century: so called from their leader Hierax, a philosopher of Egypt; who taught that Melchisedek was the Holy Ghost, denied the resurrection, and condemned marriage.

HIERANOSIS, or **MORBUS SACER**. See (the *Index* subjoined to) **MEDICINE**.

HIERA PICRA. See **PHARMACY**, n° 826.

HIERAPOLIS, (anc. geog.), a town of Phrygia, abounding in hot springs; and having its name from the number of its temples. There are coins exhibiting figures of various gods who had temples here. Of this place was Epictetus the stoic philosopher.—It is now called *Pambouk*; and is situated near the Scamander, on a portion of Mount Mesogis, distant six miles from Laodicea.—Its site appears at a distance as a white lofty cliff; and upon arriving at it, the view which it presents is so marvellous (says Dr Chandler), that the description of it, to bear even a faint resemblance, ought to appear romantic. Dr Chandler's description is as follows:

*Travels in
Asia Minor,
p. 229.*

“The vast slope which at a distance we had taken for chalk, was now beheld with wonder, it seeming an immense frozen cascade, the surface wavy, as of water at once fixed, or in its headlong course suddenly petrified. Round about us were many high, bare, stony ridges; and close by our tent, one with a wide basis, and a slender rill of water, clear, soft, and warm, running in a

small channel on the top. A woman was washing linen in it, with a child at her back; and beyond were cabins of the Turcomans, standing distinct, much neater than any we had seen, each with poultry feeding, and a fence of reeds in front.

“It is an old observation, that the country about the Mæander, the soil being light and friable, and full of salts generating inflammable matter, was undermined by fire and water. Hence it abounded in hot springs, which, after passing under-ground from the reservoirs, appeared on the mountain, or were found bubbling up in the plain or in the mud of the river: and hence it was subject to frequent earthquakes; the nitrous vapour compressed in the cavities, and sublimed by heat or fermentation, bursting its prison with loud explosions, agitating the atmosphere, and shaking the earth and waters with a violence as extensive as destructive; and hence, moreover, the pestilential grottos, which had subterraneous communications with each other, derived their noisome effluvia; and serving as smaller vents to these furnaces or hollows, were regarded as apertures of hell, as passages for deadly fumes rising up from the realms of Pluto. One or more of the mountains perhaps has burned. It may be suspected, that the surface of the country has in some places been formed from its own bowels; and in particular, it seems probable, that the hill of Laodicea was originally an eruption.

“The hot waters of Hierapolis have produced that most extraordinary phenomenon, the cliff, which is one entire incrustation. They were anciently renowned for this species of transformation. It is related, they changed so easily, that being conducted about the vineyards and gardens, the channels became long fences, each a single stone. They produced the ridges by our tent. The road up to the ruins, which appears as a wide and high causeway, is a petrification; and overlooks many green spots, once vineyards and gardens, separated by partitions of the same material. The surface of the flat, above the cliff, is rough with stone and with channels, branching out in various directions, a large pool overflowing and feeding the numerous rills, some of which spread over the slope as they descend, and give to the white stony bed a humid look, resembling salt or driven snow when melting. This crust, which has no taste or smell, being an alkaline, will ferment with acids; and Pincenini relates, that trial of it had been made with spirit of vitriol. The waters, though hot, were used in agriculture.

“Tamerlane, when he invaded this country, encamped for the summer at Tangûzlik, where many of his men were destroyed by drinking of a spring which stagnated and petrified. The Turkish name Pambouk signifies *cotton*; and, it has been said, refers to the whiteness of the incrustation.

“The shepherd-poet of Smyrna, after mentioning a cave in Phrygia sacred to the Nymphs, relates, that there Luna had once descended from the sky to Endymion, while he was sleeping by his herds; that marks of their bed were then extant under the oaks; and that in the thickets around it the milk of cows had been spilt, which men still beheld with admiration (for such was the appearance if you saw it very far off); but that from thence flowed clear or warm water, which in a little while concreted round about the channels, and formed a stone pavement. The writer describes the cliff of

Hierapolis,

Hierapolis. Hierapolis, if I mistake not, as in his time; and has added a local story, current when he lived. It was the genius of the people to unite fiction with truth; and, as in this and other instances, to dignify the tales of their mythology with fabulous evidence taken from the natural wonders in which their country abounded.

"We ascended in the morning to the ruins, which are on a flat, passing by sepulchres with inscriptions, and entering the city from the east. We had soon the theatre on our right hand, and the pool between us and the cliff. Opposite to it, near the margin of the cliff, is the remains of an amazing structure, once perhaps baths, or, as we conjectured, a gymnasium; the huge vaults of the roof striking horror as we rode underneath. Beyond it is the mean ruin of a modern fortress; and farther on are massive walls of edifices, several of them leaning from their perpendicular, the stones distorted, and seeming every moment ready to fall; the effects and evidences of violent and repeated earthquakes. In a recess of the mountain on the right hand is the area of a stadium. Then again sepulchres succeed, some nearly buried in the mountain-side, and one a square building, with an inscription in large letters. All these remains are plain, and of the stone created by the waters. The site has been computed about two hundred paces wide and a mile in length.

"After taking a general survey, we returned to the theatre, intending to copy inscriptions, and examine more particularly as we changed our station. We found this a very large and sumptuous structure, and the least ruined of any we had seen. Part of the front is standing. In the heap which lies in confusion, are many sculptures well executed in basso relievo; with pieces of architrave inscribed, but disjointed; or so encumbered with massive marbles, that we could collect from them no information. The character is large and bold, with ligatures. The marble seats are still unremoved. The numerous ranges are divided by a low semicircular wall, near mid-way, with inscriptions on the face of it, but mostly illegible. I copied a short but imperfect one, in which Apollo Archegetes of *The Leader* is requested to be propitious. In another compartment, mention is made of the city by its name *Hierapolis*; and on a third is an encomium in verse, which may be thus translated, "Hail, golden city Hierapolis, the spot to be preferred before any in wide Asia; revered for the rills of the Nymphs; adorned with splendor." The Nymphs presided over springs and fountains.

After attentively viewing them, and considering their height, width, and manner of arrangement, I am inclined to believe, that the ancient Asiatics sat at their plays and public spectacles like the modern, with their legs crossed or gathered under them; and it is probable upon carpets.

"The waters of Hierapolis were surprisingly attuned for tinging wool, with a colour from roots rivaling the more costly purples; and were a principal source of the riches of the place. The company of dyers is mentioned in the inscription on the square building among the sepulchres. That heron or monument was to be crowned by them with garlands or festoons of flowers. The springs flowed so copiously, that the city was full of spontaneous baths; and Apollo, the tutelar deity of the Hierapolitans, with Æsculapius and Hygiea, on their medals, bear witness to the medicinal vir-

tues which they possess. The people, in some of their inscriptions, are styled the *most splendid*, and the senate the *most powerful*.

"The pool before the theatre has been a bath, and marble fragments are visible at the bottom of the water, which is perfectly transparent, and of a briny taste.

"Hierapolis was noted, besides its hot waters, for a plutonium. This was an opening in a small brow of the adjacent mountain, capable of admitting a man, and very deep, with a square fence before it, inclosing about half an acre; which space was filled with black thick mist, so that the bottom could be scarcely discerned. The air, to those who approached it, was innocent on the outside of the fence, being clear of the mist in serene weather, it remaining then within the boundary; but there death abode. Bulls, as at Nyssa, dropt down, and were dragged forth without life; and some sparrows which Strabo let fly instantly fell senseless. But eunuchs, the priests of Magna Mater, or Cybele, could go in quite to the aperture, lean forward, or enter it unharmed; but they held their breath, as their visages testified, and sometimes until in danger of suffocation. Strabo, the relater, was in doubt whether all eunuchs could do this, or only they of the temple; and whether they were preserved by Divine Providence, as in cases of enthusiasm, or were possessed of some powerful antidotes. But it is likely this mist was the condensed steam of the hot waters, made noxious by the qualities of the soil; and that the whole secret of the priests consisted in carrying their faces high in the air, as another spectator has observed they always did; and in avoiding respiration when they stooped. I had hoped the description of this spot would have enabled me to find it, but I searched about for it unsuccessfully.

"We descended to our tent at the approach of evening, by a steep track down the cliff, beginning beyond the pool, in which we also bathed with pleasure, on the side next the gymnasium. Our way was often rough and slippery, resembling ice, and our horses with difficulty preserved their footing. When arrived at our tent, I renewed my inquiries for the plutonium; and an old Turk, with a beard as white as snow, told me he knew the place, that it was often fatal to their goats; and accounting for the effect, said, it was believed to be the habitation of a daemon or evil spirit. We ascended again early in the morning to the theatre, where he had promised to join us; and a live fowl was intended to be the martyr of experiment." But our author was interrupted by some banditti, and obliged to leave Hierapolis in haste.

HIERARCHY, among divines, denotes the subordination of angels.

Some of the rabbins reckon four, others ten, orders or ranks of angels; and give them different names according to their different degrees of power and knowledge.

HIERARCHY, likewise denotes the subordination of the clergy, ecclesiastical polity, or the constitution and government of the Christian church considered as a society.

HIRES, the name of some small islands lying near the coast of Provence in France, opposite to the towns of Hieres and Toulon, where the English fleet lay many months in 1744, and blocked up the French and Spanish fleets in the harbour of Toulon.

HIRES,

Hierapolis
||
Hieres.

Hieres
||
Hierogly-
phics.

HIERES, a town of Provence in France, seated on the Mediterranean sea. It is a pretty little town, and was formerly a colony of the Marfilians; and pilgrims used to embark here for the holy land. But its harbour being now choaked up, it is considerable only for its salt-works. E. Long. 6. 13. N. Lat. 43. 7.

HIERO I. and II. kings of Syracuse. See SYRACUSE.

HIEROCLES, a cruel persecutor of the Christians, and a violent promoter of the persecution under Dioclesian, flourished in 302. He wrote some books against the Christian religion; in which he pretends some inconsistencies in the Holy Scriptures, and compares the miracles of Apollonius Tyanæus to those of our Saviour. He was refuted by Lactantius and Eusebius. The remains of his works were collected into one volume octavo, by bishop Pearson; and published in 1654, with a learned dissertation prefixed to the work.

HIEROCLES, a Platonic philosopher of the fifth century, taught at Alexandria, and was admired for his eloquence. He wrote seven books upon Providence and Fate; and dedicated them to the philosopher Olympiodorus, who by his embassies did the Romans great services under the emperors Honorius and Theodosius the younger. But these books are lost, and we only know them by the extracts in Photius. He wrote also a Commentary upon the golden verses of Pythagoras; which is still extant, and has been several times published with those verses.

HIEROGLYPHICS, in antiquity, mystical characters, or symbols, in use among the Egyptians, and that as well in their writings as inscriptions; being the figures of various animals, the parts of human bodies, and mechanical instruments. The word is composed of the Greek *hieros* sacer, "holy," and *glyphein* sculperè, "to engrave;" it being the custom to have the walls, doors, &c. of their temples, obelisks, &c. engraven with such figures.

Hieroglyphics are properly emblems or signs of divine, sacred, or supernatural things; by which they are distinguished from common symbols, which are signs of sensible and natural things.

Hermes Trismegistus is commonly esteemed the inventor of hieroglyphics: he first introduced them into the heathen theology, from whence they have been transplanted into the Jewish and Christian.

Sacred things, says Hippocrates, should only be communicated to sacred persons. Hence it was that the ancient Egyptians communicated to none but their kings and priests, and those who were to succeed to the priesthood and the crown, the secrets of nature, and the secrets of their morality and history; and this they did by a kind of cabbala, which, at the same time that it instructed them, only amused the rest of the people. Hence the use of hieroglyphics, or mystic figures, to veil their morality, politics, &c. from profane eyes. This author, it may be observed, and many others, do not keep to the precise character of a hieroglyphic, but apply it to profane as well as divine things.

Hieroglyphics are a kind of real characters, which do not only denote, but in some measure express, the things. Thus, according to Clemens Alexandrinus, Strom. v. a lion is the hieroglyphic of strength

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and fortitude; a bullock, of agriculture; a horse, of liberty; a sphinx, of subtilty, &c.

Such is the opinion that has generally been embraced, both by ancient and modern writers, of the origin and use of hieroglyphics. It has been almost uniformly maintained, that they were invented by the Egyptian priests in order to conceal their wisdom from the knowledge of the vulgar; but the late bishop Warburton hath, with much ingenuity and learning, endeavoured to show that this account is erroneous.

According to this writer, the first kind of hieroglyphics were mere pictures, because the most natural way of communicating our conceptions by marks or figures was by tracing out the images of things; and this is actually verified in the case of the Mexicans, whose only method of writing their laws and history was by this picture-writing. But the hieroglyphics invented by the Egyptians were an improvement on this rude and inconvenient essay towards writing, for they contrived to make them both pictures and characters. In order to effect this improvement, they were obliged to proceed gradually, by first making the principal circumstance of the subject stand for the whole; as in the hieroglyphics of Horapollon, which represent a battle of two armies in array by two hands, one holding a shield and the other a bow: then putting the instrument of the thing, whether real or metaphorical, for the thing itself, as an eye and sceptre to represent a monarch, a ship and pilot the governor of the universe, &c.: and finally, by making one thing stand for or represent another, where their observations of nature or traditional superstitions led them to discover or imagine any resemblance: thus, the universe was designed by a serpent in a circle, whose variegated spots denoted the stars; and a man who had nobly surmounted his misfortune was represented by the skin of the hyæna, because this was supposed to furnish an invulnerable defence in battle.

The Chinese writing, he observes, was the next kind of improvement in the use of hieroglyphics. The Egyptians joined characteristic marks to images; the Chinese threw out the images and retained only the contracted marks, and from these marks proceeded letters. The general concurrence of different people in this method of recording their thoughts can never be supposed to be the effect of imitation, sinister views, or chance; but must be considered as the uniform voice of nature speaking to the rude conceptions of mankind: for not only the Chinese of the East, the Mexicans of the West, and the Egyptians of the South, but the Scythians likewise of the North, and the intermediate inhabitants of the earth, viz. the Indians, Phœnicians, Ethiopians, &c. used the same way of writing by picture and hieroglyphic.

The bishop farther shows, that the several species of hieroglyphic writing took their rise from nature and necessity, and not from choice and artifice, by tracing at large the origin and progress of the art of speech. He proceeds to show how in process of time the Egyptian hieroglyphics came to be employed for the vehicle of mystery. They used their hieroglyphics two ways; the one more simple, by putting the part for the whole, which was the curiologic hieroglyphic; and the other more artificial, by putting one thing of resembling qualities for another, called the *tropical hieroglyphic*:

thus

Hieroglyphics.

thus the moon was sometimes represented by a half circle and sometimes by a cynocephalus. They employed their proper hieroglyphics to record openly and plainly their laws, policies, public morals, and history, and all kinds of civil matters: this is evident from their obelisks, which were full of hieroglyphic characters, designed to record singular events, memorable actions, and new inventions; and also from the celebrated inscription on the temple of Minerva at Sais, where an infant, an old man, a hawk, a fish, and a river-horse, expressed this moral sentence: "All you who come into the world and go out of it, know this, that the gods hate impudence." However, the tropical hieroglyphics, which were employed to divulge, gradually produced symbols which were designed to secrete or conceal: thus Egypt was sometimes expressed by the crocodile, sometimes by a burning censer with a heart upon it; where the simplicity of the first representation and the abstruseness of the latter show, that the one was a tropical hieroglyphic for communication, and the other a tropical symbol invented for secrecy.

Enigmatic symbols were afterwards formed by the assemblage of different things, or of their properties that were less known; and though they might have been intelligible at first, yet when the art of writing was invented, hieroglyphics were more generally disused, the people forgot the signification of them, and the priests, retaining and cultivating the knowledge of them because they were the repositories of their learning and history, at length applied them to the purpose of preserving the secrets of their religion.

Symbols were the true original of animal-worship in Egypt, as Sir John Marsham conjectured, *Can. Chron.* p. 58. because in these hieroglyphics was recorded the history of their greater deities, their kings, and lawgivers, represented by animals and other creatures. The symbol of each god was well known and familiar to his worshippers, by means of the popular paintings and engravings on their temples and other sacred monuments; so that the symbol presenting the idea of the god, and that idea exciting sentiments of religion, it was natural for them, in their addresses to any particular god, to turn to his representative mark or symbol; especially when we consider farther, that the Egyptian priests feigned a divine original for hieroglyphic characters, in order to increase the veneration of the people for them. These would of course bring on a relative devotion to these symbolic figures, which, when it came to be paid to the living animal, would soon terminate in an ultimate worship.

Another consequence of the sacredness of the hieroglyphic characters was, that it disposed the more superstitious to engrave them on gems, and wear them as amulets or charms. This magical abuse seems not to have been much earlier than the established worship of the god Serapis, which happened under the Ptolemies, and was first brought to the general knowledge of the world by certain Christian heretics and natives of Egypt, who had mixed a number of Pagan superstitions with their Christianity. These gems, called *abraxas*, are frequently to be met with in the cabinets of the curious, and are engraven with all kinds of hieroglyphic characters. To these *abraxas* succeed the talismans.

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HIEROGRAMMATISTS, (*Hierogrammatei*), i. e. *holy registers*, were an order of priests among the ancient Egyptians, who presided over learning and religion. They had the care of the hieroglyphics, and were the expositors of religious doctrines and opinions. They were looked upon as a kind of prophets; and it is pretended, that one of them predicted to an Egyptian king, that an Israelite (meaning Moses), eminent for his qualifications and achievements, would lessen and depress the Egyptian monarchy.—The hierogrammatei were always near the king, to assist him with their informations and counsels. The better to fit them for this, they made use of the skill and knowledge they had acquired in the stars and the motions of the heavenly lights, and even of the writings of their predecessors, wherein their functions and duties were delivered. They were exempted from all civil employments, were reputed the first persons in dignity next the king, and bore a kind of sceptre in form of a ploughshare.—After Egypt became a province of the Roman empire, the hierogrammatei sunk into neglect.

Hierogrammatists
Hierophantes.

HIEROMANCY, in antiquity, that part of divination which predicted future events from observing the various things offered in sacrifice. See DIVINATION and SACRIFICE.

HIEROMNEMON, among the ancient Greeks, signified a delegate chosen by lot, and sent to the great council of the Amphictyons, where he was to take care of what concerned religion. The hieromnemonies were reckoned more honourable than the other members of that assembly, the general meetings of which were always summoned by them, and their names were prefixed to the decrees made by that council.

HIEROMNEMON (composed of *hieros* "sacred," and *mnemon* "one who advertises or puts in mind of," an officer in the ancient Greek church, whose principal function was to stand behind the patriarch at the sacraments, ceremonies, &c. and show him the prayers, psalms, &c. which he was to rehearse. He also clothed the patriarch in his pontifical robes, and assigned the places of all those who had a right to be around him when seated on his throne, as the master of the ceremonies now does to the pope.

HIERONYMUS. See JEROME.

HIEROPHANTES, or HIEROPHANTA, (from *hieros* *holy*, and *phaino* *I appear*), in antiquity, a priest among the Athenians.

The hierophantes was properly the chief person that officiated in the eleusinia, that great solemnity sacred to Ceres.

This office was first executed by Eumolpus, and continued in his family for 1200 years, though when any person was appointed to this dignity he was required always to live in celibacy.

St Jerome says, that the hierophantes extinguished the fire of lust by drinking cicuta or the juice of hemlock, or even by making themselves eunuchs. Apollodorus observes, that it was the hierophantes who instructed persons initiated into their religion in the mysteries and duties thereof, and that it was hence he derived his name: for the same reason he was called *prophetes*, "the prophet." He had officers under him to do the same thing, or to assist him therein, who

Hierophylax were also called *prophetes* and *exeges*, i. e. "explainers of divine things."

Highgate. To the hierophantes it belonged to dress and adorn the statues of the gods, and to bear them in processions and solemn ceremonies.

HIEROPHYLAX, an officer in the Greek church, who was guardian or keeper of the holy utensils, vestments, &c. answering to our sacrista or vestry-keeper.

HIGH, a term of relation, importing one thing's being superior or above another: thus we say, a *high* mountain, the *high* court of parliament, *high* relief, &c.

HIGH, in music, is sometimes used in the same sense with *loud*, and sometimes in the same sense with *acute*.

HIGH Dutch, is the German tongue in its greatest purity, &c. as spoken in Misnia, &c.

HIGH Operation, in chirurgery, is a method of extracting the stone; thus called, because the stone is taken out at the upper part of the bladder. See **SURGERY**.

HIGH-Places, were eminences on which the heathens used to worship their gods, chosen for that purpose as being supposed to be nearer heaven their constant residence. The Jews are frequently blamed for their attachment to high-places, after the manner of the Gentiles; though their *proseuchæ* were frequently upon mountains with groves planted about them. Where high-places are reprobated in scripture, therefore, we should understand them as abused and prostituted to idolatrous purposes. Before the temple was built, there was indeed nothing in the high-places very contrary to the law, provided God only was adored there, and that no incense or victims were offered to idols. Under the judges they seem to have been tolerated; and Samuel offered sacrifices in several places besides the tabernacle, where the ark was not present. Even in David's time, they sacrificed to the Lord at Shilo, Jerusalem, and Gibeon; but after the temple was built, and a place prepared for the fixed settlement of the ark, it was no more allowed of to sacrifice out of Jerusalem. Solomon, in the beginning of his reign, went a pilgrimage to Gibeon; but from that time we see no lawful sacrifices offered out of the temple.

HIGH Priest. See **PONTIFEX** and **PRIEST**.

HIGH Way, a free passage for the king's subjects; on which account it is called *the king's high way*, though the freehold of the soil belong to the owner of the land. Those ways that lead from one town to another, and such as are drift or cart ways, and are for all travellers in great roads, or that communicate with them, are high ways only; and as to their reparation, are under the care of surveyors.

HIGH-WAY MEN, are robbers on the high way; for the apprehending and taking of whom, a reward of 40 l. is given by the statute of 4 and 5 W. & M. to be paid within a month after conviction by the sheriff of the county; to which the statute 8 Geo. II. cap. 16. superadds 10 l. to be paid by the hundred indemnified by such taking.

HIGHAM FERRERS, an ancient borough of Northamptonshire in England, which has its name from the family of the Ferrers, to whom it formerly belonged, and who had a castle in its neighbourhood. It sends one member to parliament. E. Long. 1. 40. N. Lat. 52. 20.

HIGHGATE, a village five miles north of Lon-

don. It has its name from its high situation, and from a gate set up there about 400 years ago, to receive toll for the bishop of London, when the old miry road from Gray's-inn Lane to Barnet was turned through the bishop's park. There was a hermitage where the chapel now stands; and one of the hermits caused a causeway to be made between Highgate and Islington, with gravel dug out of the top of the hill, where there is now a pond. Near the chapel, in 1562, lord chief baron Cholmondely built and endowed a free school, which was enlarged in 1570 by Edwin Sandys bishop of London.—This village is a noted and airy retirement for the gentry and wealthy citizens; and is a place of good accommodation, besides its affording a delightful and pleasant prospect over the city and adjacent country.

HIGHLANDERS, a general appellation for the inhabitants of the mountainous parts of any country. In Britain, the name is appropriated to the people who inhabit the mountainous parts of Scotland, to the north and north-west, including those of the Hebrides or Western Isles.—They are a branch of the ancient Celtæ; and undoubtedly the descendants of the first inhabitants of Britain, as appears from the many monuments of their language still retained in the most ancient names of places in all parts of the island. The Highlanders, or, as they are often termed by ancient authors, the *Caledonians*, were always a brave, warlike, and hardy race of people; and, in the remotest times, seem to have possessed a degree of refinement in sentiment and manners then unknown to the other nations that surrounded them. This appears not only from their own traditions and poems, but also from the testimony of many ancient authors. This civilization was probably owing in a great measure to the order of the bards, or Druids, and some other institutions peculiar to this people.

The ancient Highlanders lived in the hunting state till some time after the era of Fingal, who was one of their kings towards the close of the third century. For some ages after that, they turned their chief attention to the pastoral life, which afforded a less precarious subsistence. Till of late, agriculture in most parts of the Highlands made but little progress.

The Highlanders always enjoyed a king and government of their own, till Kenneth M'Alpine (anno 845), after having subdued the Pictish kingdom, transferred thither the seat of royalty. This event proved very unfavourable to the virtues of the Highlanders, which from this period began to decline. The country, no longer awed by the presence of the sovereign, fell into anarchy and confusion. The chieftains began to extend their authority, to form factions, and to foment divisions and feuds between contending clans. The laws were either too feeble to bind them, or too remote to take notice of them. Hence sprung all those evils which long disgraced the country, and disturbed the peace of its inhabitants. Robbery or plunder, providing it was committed on any one of an adverse clan or tribe, was countenanced and authorized; and their reprisals on one another were perpetual. Thus quarrels were handed down from one generation to another, and the whole clan were bound in honour to espouse the cause of every individual that belonged to it. By this means the genius of the people was greatly

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greatly altered; and the Highlanders of a few ages back were almost as remarkable for their irregular and disorderly way of life as their predecessors were for their civilization and virtue. It is from not attending to this distinction between the ancient Highlanders and their posterity in later times, that many have doubted the existence of those exalted virtues ascribed by their poets to the more ancient inhabitants of the country. But now that the power of the chieftains is again abolished, law established, and property secured, the genius of the people (where it is not hindered by some other extraneous cause) begins again to show itself in its genuine colours; and many of their ancient virtues begin to shine with conspicuous lustre. Justice, generosity, honesty, friendship, peace, and love, are perhaps nowhere more cultivated than among this people. But one of the strongest features which marked the character of the Highlanders in every age, was their hospitality and benevolence to strangers. At night the traveller was always sure to find a hearty welcome in whatever house he should go to; and the host thought himself happier in giving the entertainment than the guest in receiving it. Even with regard to their enemies, the laws of hospitality were observed with the most sacred regard. They who fought against each other in the day, could in the night feast, and even sleep together, in the same house. From the same principle, they were, in most other cases, so faithful to their trust, that they rarely betrayed any confidence reposed in them. A promise they thought as binding as an oath, and held it equally inviolable and sacred.

The Caledonians in all ages have been much addicted to poetry and music. The poems of Ossian, so universally repeated, and so highly esteemed by every Highlander, are a strong proof of the early proficiency of this people in the poetical art. Even to this day, notwithstanding the many disadvantages they labour under, the most illiterate of either sex discover frequently a genius for poetry, which often breaks forth in the most natural and simple strains, when love, grief, joy, or any other subject of song, demands it. Wherever their circumstances are so easy as to allow them any respite from toil, or any cheerfulness of spirits, a good portion of their time, especially of the winter-nights, is still devoted to the song and tale. This last species of composition is chiefly of the novel-kind, and is handed down by tradition like their poems. It was the work of the bards; and proved, while they existed, no contemptible entertainment. But since the extinction of that order, both the Gaelic poems and tales are in a great measure either lost or adulterated. —The genius and character of the Gaelic poetry is well known. It is tender, simple, beautiful, and sublime.

Among the ancient Highlanders, the harp was the chief instrument of music. It suited the mildness of their manners, and was well adapted to the peace and quiet which they enjoyed under their own kings. In a later period, however, when the constant quarrels of their chiefs, and the endless feuds of contending clans, turned all their thoughts to war, it was forced to give place to the bag-pipe, an instrument altogether of the martial kind, and therefore well suited to the state of the country at that time. But ever since the cause

which had brought this instrument in vogue has ceased to operate, the attention to it has been on the decline; so that the harp, with very little encouragement, might again resume the seat from which it was once expelled. —The most, and especially the oldest of the Highland music, having been composed to the harp, is of a soft, tender, and elegiac cast, as best suited to the genius of that instrument. These pieces are generally expressive of the passions of love and grief. Other pieces, which were composed in their state of war, and adapted to a different instrument, are altogether bold and martial. And many are of a sprightly and cheerful cast, the offspring of mirth, and the sport of fancy in the season of festivity. Many of these last are of the chorus kind; and are sung in almost all the exercises in which a number of people are engaged, such as rowing, reaping, fulling, &c. The time of these pieces is adapted to the exercises to which they are respectively sung. They greatly forward the work, and alleviate the labour. The particular music which is generally used by the Highlanders in their dances is well known by the name of *Strathspey reels*.

The language of the Highlanders is still the Gaelic; which, with many of their customs and manners, has been secured to them by their mountains and fastnesses, amidst the many revolutions which the rest of the island has undergone in so long a course of ages. The Gaelic seems to be the oldest and purest dialect which remains of the Celtic, as appears from its approaching the nearest to the names of places, &c. which that language left in most countries where it prevailed, and from its most obvious affinity to those tongues, ancient or modern, which have been in any measure derived from the old Celtic. The Gaelic has all the marks of an original and primitive language. Most of the words are expressive of some property or quality of the objects which they denote. This, together with the variety of its sounds (many of which, especially of those that express the soft and mournful passions, are peculiar to itself), renders it highly adapted for poetry. It is generally allowed to have been the language of court, in Scotland, till the reign of Malcom Canmore. The Gaelic epithet of *Can-more*, or “large head,” by which this king is distinguished, seems to intimate so much. In some particular parliaments at least, it was spoken much later, as in that held by Robert the Bruce at Ardchattan. That it has been formerly a good deal cultivated, appears from the style and complexion of its poems and tales, and from several ancient MSS. that have come down to the present times. To strangers the Gaelic has a forbidding aspect, on account of the number of its quiescent consonants (which are retained to mark the derivation of words and their variation in case and tense), but its sound is abundantly musical and harmonious; and its genius strong and masculine. Its alphabet consists of 18 letters, of which one is an aspirate, 12 are consonants, and five are vowels.

The Highlanders are beginning of late to apply to learning, agriculture, and especially to commerce, for which their country, every where indented with arms of the sea, is peculiarly favourable. Cattle is the chief staple of the country; but it produces more grain than would supply its inhabitants, if so much of it were not consumed in whisky. The natives

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Highmore. are beginning to avail themselves of their mines, woods, wool, and fisheries; and by a vigorous application, with the due encouragement of government, may become a prosperous and useful people.

The Highlanders are of a quick and penetrating genius, strongly tinged with a curiosity or thirst of knowledge, which disposes them to learn any thing very readily. They are active and industrious, where oppression does not discourage them by secluding even the hope of thriving. They are remarkably bold and adventurous, which qualifies them for being excellent seamen and soldiers. They are generally of a middle size, rather above it than otherwise; their eyes are brisk and lively, their features distinctly marked, and their persons tight and well made. Their countenance is open and ingenuous, and their temper frank and communicative.

HIGHMORE (Joseph, Esq;) an eminent painter, was born in the parish of St James's, Garlickhithe, London, June 13. 1692, being the third son of Mr Edward Highmore, a coal-merchant in Thames-street. Having such an early and strong inclination to painting, that he could think of nothing else with pleasure, his father endeavoured to gratify him in a proposal to his uncle, who was serjeant-painter to king William, and with whom Mr (afterwards Sir James) Thornhill had served his apprenticeship. But this was afterwards for good reasons declined, and he was articled as clerk to an attorney, July 18th 1707; but so much against his own declared inclination, that in about three years he began to form resolutions of indulging his natural disposition to his favourite art, having continually employed his leisure hours in designing, and in the study of geometry, perspective, architecture, and anatomy, but without any instructors except books. He had afterwards an opportunity of improving himself in anatomy, by attending the lectures of Mr Cheselden, besides entering himself at the painters academy in Great Queen-street, where he drew 10 years, and had the honour to be particularly noticed by Sir Godfrey Kneller, who distinguished him by the name of "the Young Lawyer." On June 13th 1714, his clerkship expired; and on March 26th 1715, he began painting as a profession, and settled in the city. In the same year Dr Brook Taylor published his "Linear Perspective: or, a new method of representing justly all manner of objects as they appear to the eye in all situations." On this complete and universal theory our artist grounded his subsequent practice; and it has been generally allowed, that few, if any of the profession at that time, were so thorough masters of that excellent but intricate system. In 1716, he married Miss Susanna Hiller, daughter and heiress of Mr Anthony Hiller of Effingham in Surrey; a young lady in every respect worthy of his choice. For Mr Cheselden's "Anatomy of the Human Body," published in 1722, he made drawings from the real subjects at the time of dissection, two of which were engraved for that work, and appear, but without his name, in tables xii. and xiii. In the same year, on the exhibition of "The Conscious Lover," written by Sir Richard Steele, Mr Highmore addressed a letter to the author on the limits of filial obedience, pointing out a material defect in the character of Bevil, with that clearness and precision for which, in conversation and wri-

ting, he was always remarkable, as the pencil by no means engrossed his whole attention. His reputation and business increasing, he took a more conspicuous station, by removing to a house in Lincoln's-Inn Fields, in March 1723-4; and an opportunity soon offered of introducing him advantageously to the nobility, &c. by his being desired, by Mr Pine the engraver, to make the drawings for his prints of the knights of the bath, on the revival of that order in 1725. In consequence, several of the knights had their portraits also by the same hand, some of them whole lengths; and the duke of Richmond, in particular, was attended by his three esquires, with a perspective view of king Henry VIIIth's chapel. This capital picture is now at Godwood. And our artist was sent for to St James's by George I. to draw the late duke of Cumberland, from which Smith scraped a mezzotinto.

In 1728, Mr Hawkins Browne, then of Lincoln's-Inn, who had ever a just sense of his talents and abilities, addressed to him a poetical epistle "On Design and Beauty;" and, some years after, an elegant Latin Ode, both now collected in his poems. In the summer of 1732, Mr Highmore visited the continent, in company with Dr Pemberton, Mr Benjamin Robins, and two other friends, chiefly with a view of seeing the gallery of pictures belonging to the elector Palatine at Duffeldorp, collected by Rubens, and supposed the best in Europe. At Antwerp also he had peculiar pleasure in contemplating the works of his favourite master. In their return they visited the principal towns in Holland. In 1734, he made a like excursion, but alone, to Paris, where he received great civilities from his countrymen then there, particularly the duke of Kingston, Dr Hickman (his tutor), Robert Knight, Esq; (the late cashier), &c. Here he had the satisfaction of being shown, by cardinal de Polignac, his famous group of antique statues, the court of Lycomedes, then just brought from Rome, and since purchased by the king of Prussia, and destroyed at Charlottenbourg in 1760 by the Russians. In 1742, he had the honour to paint the late prince and princess of Wales for the duke of Saxe Gotha; as he did some years after the late queen of Denmark for that court. The publication of "Pamela," in 1744, gave rise to a set of paintings by Mr Highmore, which were engraved by two French engravers, and published by subscription in 1745. In the same year he painted the only original of the late general Wolfe, then about 18. His Pamela introduced him to the acquaintance and friendship of the excellent author whose picture he drew, and for whom he painted the only original of Dr Young. In 1750 he had the misfortune to lose his wife. On the first institution of the academy of painting, sculpture, &c. in 1753, he was elected one of the professors; an honour which, on account of his many avocations, he desired to decline. In 1754 he published "A critical examination of those two Paintings [by Rubens] on the Ceiling of the Banqueting-house at Whitehall, in which Architecture is introduced, so far as relates to Perspective; together with the Discussion of a Question which has been the Subject of Debate among Painters:" printed in 4to. In the solution of this question, he proved that Rubens and several other great painters were mistaken in the practice, and Mr Kirby and several

Highmore. veral other authors in the theory. And in the 17th volume of the "Monthly Review," he animadverted (anonymously) on Mr Kirby's unwarrantable treatment of Mr Ware, and detected and exposed his errors, even when he exults in his own superior science. Of the many portraits which Mr Highmore painted, in a large practice of 46 years (of which several have been engraved), it is impossible and useless to discuss particulars. Some of the most capital in the historical branch, which was then much less cultivated than it is at present, shall only be mentioned, viz. "Hagar and Ishmael," a present to the Foundling-hospital: "The good Samaritan," painted for Mr Shepherd of Campsey Ash: "The finding of Moses," purchased at his sale by colonel (now general) Lister: "The Harlowe family, as described in Clarissa," now in the possession of Thomas Watkinson Payler, Esq; at Heden in Kent: "Clarissa," the portrait mentioned in that work: "The Graces unveiling Nature," drawn by memory from Rubens: "The Clementina of Grandison, and the queen mother of Edward IV. with her younger son, &c. in Westminster-abbey;" the three last in the possession of his son.

In 1761, on the marriage of his daughter to the Rev. Mr Duncombe, son to one of his oldest friends, he took a resolution of retiring from business, and disposing of his collection of pictures, which he did by auction, in March 1762, and soon after removed to his son-in-law's at Canterbury, where he passed the remainder of his life without ever revisiting the metropolis. But though he had laid down the pencil, he never wanted employment: so active and vigorous was his mind, that, with a constitutional flow of spirits, and a relish for instructive society, he was never less "alone than when alone;" and, besides his professional pursuits above mentioned, to philosophy, both natural and moral, and also divinity, he laudably dedicated his time and attention. No man had more clearness and precision of ideas, or a more ardent desire to know the truth; and, when known, conscientiously to pursue it. With strong passions, ever guided by the strictest virtue, he had a tender, susceptible heart, always open to the distresses of his fellow-creatures, and always ready to relieve them. His capital work of the literary kind was his "Practice and perspective, on the principles of Dr Brook Taylor, &c." written many years before, but not published till 1763, when it was printed for Nourse, in one vol. 4to. This not only evinced his scientific knowledge of the subject, but removed, by its perspicuity, the only objection that can be made to the system of Dr Taylor. It accordingly received, from his friends and the intelligent public, the applauses it deserved. In 1765 he published (without his name) "Observations on a Pamphlet intituled, 'Christianity not founded on Argument;'" in which, after showing that it is a continued irony, and lamenting that so ample a field should be offered the author of it for the display of his sophistry; he gives up creeds, articles, and catechisms, as out-works raised by fallible men, and confining himself to the defence of the gospel, or citadel, shows, that pure primitive Christianity, though assaulted by infidels, will ever remain impregnable. His opinion of Rubens may be seen in the Gentleman's Magazine for 1766, p. 353, under the title of "Remarks on some passages in Mr Webb's inquiry

into the Beauties of Painting, &c." In the same Highmore. year he published, with only his initials, "J. H." two small volumes of "Essays, moral, religious, and miscellaneous; with a Translation in prose of Mr Browne's Latin Poem on the Immortality of the Soul," selected from a large number written at his leisure, at different periods of life. "As such (says Dr Hawkesworth) they do the author great credit. They are not excursions of fancy, but efforts of thought, and indubitable indications of a vigorous and active mind." In the Gentleman's Magazine for 1769, p. 287, he communicated "A natural and obvious Manner of constructing Sun-dials, deduced from the Situation and Motion of the Earth with respect to the Sun," explained by a scheme. And in that for 1778, p. 526, his remarks on colouring, suggested by way of a note on the "Epistle to an eminent Painter," will show that his talents were by no means impaired at the age of 86. Indeed he retained them to the last, and had even strength and spirit sufficient to enable him to ride out daily on horseback the summer before he died. A strong constitution, habitual temperance, and constant attention to his health in youth as well as in age, prolonged his life, and preserved his faculties to his 88th year, when he gradually ceased to breathe, and, as it were, fell asleep on March 3. 1780. He was interred in the south aisle of Canterbury cathedral, leaving one son, Anthony, educated in his own profession; and a daughter, Susanna, mentioned above.

His abilities as a painter appear in his works, which will not only be admired by his contemporaries, but by their posterity; as his tints, like those of Rubens and Vandyck, instead of being impaired, are improved by time, which some of them have now withstood above 60 years. His idea of beauty, when he indulged his fancy, was of the highest kind; and his knowledge of perspective gave him great advantages in family-pieces, of which he painted more than any one of his time. He could take a likeness by memory as well as by a sitting, as appears by his picture of the duke of Lorrain (the late emperor), which Faber engraved; and those of king George II. (in York-assembly-room); queen Caroline, the two Miss Gunnings, &c. Like many other great painters, he had "a poet for his friend," in the late Mr Browne; to which may be added a poem addressed to him in 1726, by the Rev. Mr Bunce, at that time of Trinity-hall, Cambridge, who succeeded Mr Highmore, and in 1780 was vicar of St Stephen's near Canterbury.

HIGHNESS, a quality or title of honour given to princes.—The kings of England and Spain had formerly no other title but that of *highness*; the first till the time of James I. and the second till that of Charles V. The petty princes of Italy began first to be complimented with the title of *highness* in the year 1630.—The duke of Orleans assumed the title of *royal highness* in the year 1631, to distinguish himself from the other princes of France.

The duke of Savoy, late king of Sardinia, bore the title of *royal highness*, on account of his pretensions to the kingdom of Cyprus.—It is said that duke only took the title of *royal highness*, to put himself above the duke of Florence, who was called *great duke*; but the great duke afterwards assumed the title of *royal highness*, to put himself on a level with the duke of Savoy.

Hilaria
||
Hilarodi.

The prince of Conde first took the title of *most serene highness*, leaving that of simple *highness* to the natural princes.

HILARIA, in antiquity, feasts celebrated every year by the Romans on the 8th of the calends of April, or the 25th of March, in honour of Cybele the mother of the gods.

The hilaria were solemnized with great pomp and rejoicing. Every person dressed himself as he pleased, and took the marks or badges of whatever dignity or quality he had a fancy for. The statue of the goddess was carried in procession through the streets of the city, accompanied by multitudes in the most splendid attire. The day before the festival was spent in tears and mourning. Cybele represented the earth, which at this time of the year begins to feel the kindly warmth of the spring; so that this sudden transition from sorrow to joy was an emblem of the vicissitude of the seasons, which succeeded one another.

The Romans took this feast originally from the Greeks, who called it *αἰαλας*, q. d. *ascensus*; the eve of that day they spent in tears and lamentations, and thence denominated it *καταλας*, *descensus*.

Afterwards, the Greeks took the name *ἡλάρια* from the Romans; as appears from Photius, in his extract of the life of the philosopher Isidore.

Casaubon maintains, that beside this particular signification, the word hilaria was also a general name for any joyful or festival day, whether public or private and domestic. But Salmasius does not allow of this.

Tristan, tom. i. p. 482, distinguishes between hilaria and hilaria. The former, according to him, were public rejoicings; and the latter, prayers made in consequence thereof; or even of any private feast or rejoicing, as a marriage, &c. The public lasted several days; during which, all mourning and funeral ceremonies were suspended.

HILARIUS, an ancient father of the Christian church, who flourished in the 4th century. He was born, as St Jerome informs us, at Poitiers, of a good family; who gave him a liberal education in the Pagan religion, and which he did not forsake till he was arrived at maturity. He was advanced to the bishopric of Poitiers in the year 355, according to Baronius; and became a most zealous champion for the orthodox faith, particularly against the Arians, who were at that time gaining ground in France. He assembled several councils there, in which the determinations of the synods of Rimini and Seleucia were condemned. He wrote a treatise concerning synods; and a famous work in 12 books on the Trinity, which is much admired by the orthodox believers. He died in the latter end of the year 367. His works have been many times published; but the last and best edition of them was given by the Benedictines at Paris in 1693.

HILARODI, in the ancient music and poetry, a sort of poets among the Greeks, who went about singing little gay poems or songs, somewhat graver than the Ionic pieces, accompanied with some instrument. From the streets they were at last introduced into tragedy, as the magodi were into comedy. They appeared dressed in white, and were crowned with gold. At first they wore shoes; but afterwards they assumed the crepida, being only a sole tied over with a strap.

HILARY-TERM. See **TERM.**

HILDESHEIM, a small district of Germany, in the circle of Lower Saxony. It lies between the duchies of Lunenburg and Brunswick; and may be about 25 miles from east to west, and 36 from north to south. It is watered by the rivers Leine and Innersty. The soil is fertile; and its principal places are Peine, Sarsted, Bruggen, and Alveld. Hildesheim, from whence it takes its name, is governed as an imperial city. Its bishop is now elector of Cologne.

HILDESHEIM, a strong city of Germany, in Lower Saxony, with a Roman-catholic bishop's see, whose bishop is sovereign. It is a free imperial city, tho' in some things dependent on the bishop. It is a large town, well built and fortified. It is divided into the Old Town and the New, which have each their separate council. It is seated on the river Irnest, in E. Long. 10. 0. N. Lat. 52. 17.

HILL, a term denoting any considerable eminence on the earth's surface. It is sometimes synonymous with the word *mountain*; though generally it denotes only the lesser eminences, the word *mountain* being particularly applied to the very largest. See **MOUNTAIN**.

HILL (Aaron), a poet of considerable eminence, the son of a gentleman of Malmesbury-abbey in Wiltshire, was born in 1685. His father's imprudence having cut off his paternal inheritance, he left Westminster school at 14 years of age; and embarked for Constantinople, to visit lord Paget the English ambassador there, who was his distant relation. Lord Paget received him with surprize and pleasure, provided him a tutor, and sent him to travel: by which opportunity he saw Egypt, Palestine, and a great part of the east; and returning home with his noble patron, visited most of the courts of Europe. About the year 1709, he published his first poem intitled *Camillus*, in honour of the earl of Peterborough who had been general in Spain; and being the same year made master of Drury-lane theatre, he wrote his first tragedy, *Elfred*, or the fair Inconstant. In 1710, he became master of the opera-house in the Hay-market; when he wrote an opera called *Rinaldo*, which met with great success, being the first that Mr Handel set to music after he came to England. Unfortunately for Mr Hill, he was a projector as well as poet, and in 1715 obtained a patent for extracting oil from beech-nuts; which undertaking, whether good or bad, miscarried after engaging three years of his attention. He was also concerned in the first attempt to settle the colony of Georgia; from which he never reaped any advantage: and in 1728 he made a journey into the Highlands of Scotland, on a scheme of applying the woods there to ship-building; in which also he lost his labour. Mr Hill seems to have lived in perfect harmony with all the writers of his time, except Mr Pope, with whom he had a short paper-war, occasioned by that gentleman's introducing him in the *Dunciad*, as one of the competitors for the prize offered by the goddess of Dullness, in the following lines:

"Then Hill essay'd; scarce vanish'd out of sight,
"He buoys up instant, and returns to light;
"He bears no token of the fabler streams,
"And mounts far off among the Swans of Thames."

This, though far the gentlest piece of satire in the whole poem,

Hilary
||
Hill.

Hill. poem, and conveying at the same time an oblique compliment, roused Mr Hill to take some notice of it; which he did by a poem written during his peregrination in the north, intitled, "The progress of wit, a caveat for the use of an eminent writer;" which he begins with the following eight lines, in which Mr Pope's too well-known disposition is elegantly, yet very severely characterized:

"Tuneful *Alexis* on the Thames' fair side,
"The Ladies play-thing and the Muses pride;
"With merit popular, with wit polite,
"Easy tho' vain, and elegant tho' light;
"Desiring and deserving others praise,
"Poorly accepts a Fame he ne'er repays:
"Unborn to cherish, sneakingly approves;
"And wants the soul to spread the worth he loves."

The *sneakingly approves*, in the last couplet, Mr Pope was much affected by; and indeed through their whole controversy afterwards, in which it was generally thought that Mr Hill had much the advantage, Mr Pope seems rather to express his repentance by denying the offence, than to vindicate himself supposing it to have been given. Besides the above poems, Mr Hill, among many others, wrote one, called *The northern star*, upon the actions of Czar Peter the Great; for which he was several years afterwards complimented with a gold medal from the empress Catharine, according to the Czar's desire before his death. He likewise altered some of Shakespeare's plays, and translated some of Voltaire's. His last production was *Merope*; which was brought upon the stage in Drury-lane by Mr Garrick. He died on the 8th of February 1749, as it is said, in the very minute of the earthquake; and after his decease four volumes of his works in prose and verse were published in octavo, and his dramatic works in two volumes.

HILL (Sir John), a voluminous writer, was originally bred an apothecary; but his marrying early, and without a fortune, made him very soon look round for other resources than his profession. Having, therefore, in his apprenticeship, attended the botanical lectures of the company, and being possessed of quick natural parts, he soon made himself acquainted with the theoretical as well as practical parts of botany: from whence being recommended to the late duke of Richmond and lord Petre, he was by them employed in the inspection and arrangement of their botanic gardens. Assisted by the liberality of these noblemen, he executed a scheme of travelling over the kingdom, to collect the most rare and uncommon plants; which he afterward published by subscription: but after great researches and uncommon industry, this undertaking turned out by no means adequate to his expectation. The stage next presented itself, as a soil in which genius might stand a chance of flourishing: but after two or three unsuccessful attempts, it was found he had no pretensions either to the sock or buskin; which once more reduced him to his botanical pursuits, and his business as an apothecary. At length, about the year 1746, he translated from the Greek, a small tract, written by Theophrastus, on Gems, which he published by subscription; and which, being well executed, procured him friends, reputation, and money. Encouraged by this, he engaged in works of greater extent and importance. The first he undertook was *A general natural history*, in 3 vols folio. He next engaged, in conjunction with George Lewis Scott, Esq; in furnishing a Supplement

to Chambers's Dictionary. He at the same time started the *British Magazine*; and while he was engaged in a great number of these and other works, some of which seemed to claim the continued attention of a whole life, he carried on a daily essay, under the title of *Inspector*. Amidst this hurry of business, Mr Hill was so laborious and ready in all his undertakings, and was withal so exact an œconomist of his time, that he scarcely ever missed a public amusement for many years: where, while he relaxed from the severer pursuits of study, he gleaned up articles of information for his periodical works. It would not be easy to trace Mr Hill, now Dr Hill (for he procured a diploma from the college of St Andrew's), through all his various pursuits in life. A quarrel he had with the Royal Society, for being refused as a member, which provoked him to ridicule that learned body, in *A review of the works of the Royal Society of London*, 4to, 1751; together with his over-writing himself upon all subjects without reserve; made him sink in the estimation of the public nearly in the same pace as he had ascended. He found as usual, however, resources in his own invention. He applied himself to the preparation of certain simple medicines: such as the essence of water-dock, tincture of valerian, balsam of honey, &c. The well-known simplicity of these medicines made the public judge favourably of their effects, insomuch that they had a rapid sale, and once more enabled the doctor to figure in that style of life ever so congenial to his inclination. Soon after the publication of the first of these medicines, he obtained the patronage of the earl of Bute, through whose interest he acquired the management of the royal gardens at Kew, with an handsome salary: and to wind up the whole of an extraordinary life, having, a little before his death, seized an opportunity to introduce himself to the knowledge of the king of Sweden, that monarch invested him with one of the orders of his court, which title he had not the happiness of enjoying above two years. He died toward the close of the year 1775.

HILLEL, senior, of Babylon, president of the sanhedrim of Jerusalem. He formed a celebrated school there, in which he maintained the oral traditions of the Jews against Shamai, his colleague, whose disciples adhered only to the written law; and this controversy gave rise to the sects of Pharisees and Scribes. He was likewise one of the compilers of the Talmud. He also laboured much at giving a correct edition of the sacred text; and there is attributed to him an ancient manuscript bible, which bears his name. He flourished about 30 years B. C. and died in a very advanced age.

HILLEL, the nasi, or prince, another learned Jew, the grandson of Judas Hakkadosh, or the Saint, the author of the Mishna, lived in the fourth century. He composed a cycle; and was one of the principal doctors of the Gamara. The greatest number of the Jewish writers attribute to him the correct edition of the Hebrew text which bears the name of *Hillel*, which we have already mentioned in the preceding article. There have been several other Jewish writers of the same name.

HILLIA, in botany: A genus of the monogynia order, belonging to the hexandria class of plants; and in the natural method ranking with those of which the order is doubtful. The calyx is hexaphyllous; the co-

Hill
||
Hillia.

Hillsbo-
rough
||
Hinckley.

rolla cleft in six parts, and very long; the berry inferior, bilocular, and polyspermous.

HILLSBOROUGH, a borough, fair, and post-town, in the county of Down, and province of Ulster, 69 miles from Dublin. Here is a fine seat of the earl of Hillsborough. The town is pleasantly situated and almost new built, in view of Lisburn, Belfast, and Carrickfergus bay; the church is magnificent, having an elegant spire, as lofty as that of St Patrick's in Dublin, and seven painted windows. Here is an excellent inn, and a thriving manufacture of muslins. It has three fairs, and sends two members to parliament. This place gives title of earl to the family of Hillsborough. N. Lat. 54. 30. W. Long. 6. 20.

HILUM, among botanists, denotes the eye of a bean.

HIMERA (anc. geog.), the name of two rivers in Sicily; one running northwards into the Tuscan sea, now called *Fiume di Termini*; and the other southwards into the Lybian; dividing Sicily into two parts, being the boundary between the Syracusans to the east and Carthaginians to the west; not rising from the same, but from different springs.

HIMERA (anc. geog.), a town of Sicily, at the mouth of the Himera, which ran northwards, on its left or west side: A colony of Zancle: afterwards destroyed by the Carthaginians (Diodorus Siculus).

HIMERENSES THERMAE (anc. geog.), a town of Sicily, on the east side of that Himera which runs to the north. After the destruction of the town of Himera by the Carthaginians, such of the inhabitants as remained, settled in the same territory, not far from the ancient town. Now Termini. Made a Roman colony by Augustus.

HIN, a Hebrew measure of capacity for things liquid, containing the sixth part of an ephah, or one gallon two pints English measure.

HINCKLEY, a market-town of Leicestershire, built on a rising ground, nearly on the borders of Leicestershire, from which it is separated by the Roman Watling-street road. It is distant from Coventry and Leicester 15 miles each, and 102 from London. It has been much larger than it is at present, the back lanes between the orchards having evidently been streets originally, and the traces of the town-wall and ditch are in many places yet visible. There are vestiges of two Roman works, viz. the mount near the river, and the ruins of a bath near St Nicholas church, where tessellated pavements have been dug up. The Jewery wall is said to have been the temple of Janus. The castle was inhabited by John of Gaunt; but is now no more, the scite being converted into garden-ground, the castle-hill considerably lowered, and a gentleman's house erected on the spot in 1770. The steeple of the present church was built with some of the stones of the castle. The town is now divided into the borough, and the bond without the liberties. It has a good market on Mondays, and a fair in August. The chief manufacture is stockings and fine ale. The town is said to contain about 750 houses. There are two churches, one chapel, and a place of worship for the Roman Catholics, besides four meeting-houses. The church is a neat large old structure with a modern tower and a spire, the body of it was built in the 13th century, and near it are three mineral springs. This town is said to be the middle and highest ground in

N^o 153.

England; and from it 50 churches may be seen, besides gentlemens seats. It received great damage by a fire Sept. 5. 1728.

HIND, a female stag in the third year of its age. See **CERVUS**.

HINDON, a small town of Wiltshire in England, which sends two members to parliament. It is situated in E. Long. 2. 14. N. Lat. 51. 12.

HINDOOS, or **GENTOOS**, the inhabitants of that part of India known by the name of *Hindostan* or the *Mogul's empire*, who profess the religion of the Bramins, supposed to be the same with that of the ancient Gymnosophists of Ethiopia.

From the earliest period of history these people seem to have maintained the same religion, laws, and customs, which they do at this day: and indeed they and the Chinese are examples of perseverance in these respects altogether unknown in the western world. In the time of Diodorus Siculus they are said to have been divided into seven casts or tribes; but the intercourse betwixt Europe and India was in his time so small, that we may well suppose the historian to have been mistaken, and that the same tenacity for which they are so remarkable in other respects has manifested itself also in this. At present they are divided only into four tribes; 1. The Bramin; 2. The Khatry; 3. The Bhyse; and, 4. The Soodera. All these have distinct and separate offices, and cannot, according to their laws, intermingle with each other; but for certain offences they are subject to the loss of their cast, which is reckoned the highest punishment they can suffer; and hence is formed a kind of fifth cast named *Pariahs* on the coast of Coromandel, but in the Shan-serit or sacred language *Chandalas*. These are esteemed the dregs of the people, and are never employed but in the meanest offices. There is besides a general division which pervades the four casts indiscriminately; and which is taken from the worship of their gods *Vishnou* and *Sheevah*; the worshippers of the former being named *Vishnou-bukht*; of the latter, *Sheevah-bukht*.

Of these four casts the bramins are accounted the foremost in every respect; and all the laws have such an evident partiality towards them, as cannot but induce us to suppose that they have had the principal hand in framing them. They are not, however, allowed to assume the sovereignty; the religious ceremonies and the instruction of the people being their peculiar province. They alone are allowed to read the *Veda* or sacred books; the *Khatries*, or cast next in dignity, being only allowed to hear them read; while the other two can only read the *Sastras* or commentaries upon them. As for the poor *Chandalas*, they dare not enter a temple, or be present at any religious ceremony.

In point of precedency the bramins claim a superiority even to the princes; the latter being chosen out of the Khatry or second cast. A rajah will receive with respect the food that is prepared by a brahman, but the latter will eat nothing that has been prepared by any member of an inferior cast. The punishment of a bramini for any crime is much milder than if he had belonged to another tribe; and the greatest crime that can be committed is the murder of a bramini. No magistrate must desire the death of one of these sacred persons, or cut off one of his limbs. They must be

Hind
||
Hindoo.

Their division into tribes or casts.

Hindoos. be readily admitted into the presence even of princes whenever they please: when passengers in a boat, they must be the first to enter and to go out; and the waterman must besides carry them for nothing; every one who meets them on the road being likewise obliged to give place to them.

All the priests are chosen from among this order, such as are not admitted to the sacerdotal function being employed as secretaries and accountants. These can never afterwards become priests, but continue to be greatly revered by the other casts.

The Khatry or second cast are those from among whom the sovereigns are chosen.—The Bhyse or Banians, who constitute the third cast, have the charge of commercial affairs; and the Soodera, or fourth cast, the most numerous of all, comprehend the labourers and artisans. These last are divided into as many classes as there are followers of different arts; all the children being invariably brought up to the profession of their fathers, and it being absolutely unlawful for them ever to alter it afterwards.

No Hindoo is allowed to quit the cast in which he was born upon any account. All of them are very scrupulous with regard to their diet; but the bramins much more so than any of the rest. They eat no flesh, nor shed blood; which we are informed by Porphyry and Clemens Alexandrinus was the case in their time. Their ordinary food is rice and other vegetables, dressed with *ghee* (a kind of butter melted and refined so as to be capable of being kept for a long time), and seasoned with ginger and other spices. The food which they most esteem, however, is milk as coming from the cow; an animal for which they have the most extravagant veneration, insomuch that it is enacted in the code of Gentoo laws, that any one who exacts labour from a bullock that is hungry or thirsty, or that shall oblige him to labour when fatigued or out of season, is liable to be fined by the magistrates. The other casts, though less rigid, abstain very religiously from what is forbidden them; nor will they eat any thing provided by a person of an inferior cast, or by one of a different religion. Though they may eat some kinds of flesh and fish, yet it is counted a virtue to abstain from them all. None of them are allowed to taste intoxicating liquor of any kind. Quintus Curtius indeed mentions a sort of wine made use of by the Indians in his time; but this is supposed to have been no other than toddy, or the unfermented juice of the cocoa nut. This when fermented affords a spirit of a very unwholesome quality; but it is drunk only by the Chandalas and the lower class of Europeans in the country. So exceedingly bigotted and superstitious are they in their absurd maxims with regard to meat and drink, that some Seapoys in a British ship having expended all the water appropriated to their use, would have suffered themselves to perish for thirst rather than taste a drop of that which was used by the ship's company.

² **Of the religion of the** The religion of the Hindoos, by which these maxims are inculcated, and by which they are made to differ so much from other nations, is contained in certain books named *Veda*, *Vedams*, or *Beds*, written in a language called *Shanscrit*, which is now known only to the learned among them. The books are supposed to have been the work not of the supreme God himself, but of

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an inferior deity named Brimha. They inform us, that Brama, or Brahma, the supreme God, having created the world by the word of his mouth, formed a female deity named Bawaney, who in an enthusiasm of joy and praise brought forth three eggs. From these were produced three male deities, named *Brimha*, *Vishnou*, and *Sheevah*. Brimha was endowed with the power of creating the things of this world, Vishnou with that of cherishing them, and Sheevah with that of restraining and correcting them. Thus Brimha became the creator of man; and in this character he formed the four casts from different parts of his own body, the Bramins from his mouth, the Khatry from his arms, the Banians from his belly and thighs, and the Soodera from his feet. Hence, say they, these four different casts derive the different offices assigned them; the Bramins to teach; the Khatry to defend and govern; the Banians to enrich by commerce and agriculture; and the Soodera to labour, serve, and obey. Brama himself endowed mankind with passions, and understanding to regulate them; while Brimha, having created the inferior beings, proceeded to write the Vedams, and delivered them to be read and explained by the bramins.

The religion of the Hindoos, though involved in superstition and idolatry, seems to be originally pure; inculcating the belief of an eternal and omnipotent Being; their subordinate deities Brimha, Vishnou, and Sheevah, being only representatives of the wisdom, goodness, and power, of the supreme God Brama. All created things they suppose to be *types* of the attributes of Brama, whom they call the *principle of truth*, the *spirit of wisdom*, and the *supreme being*; so that it is probable that all their idols were at first only designed to represent these attributes.

There are a variety of sects among the Hindoos: ³ Different sects. two great classes we have mentioned already, viz. the worshippers of Vishnou and those of Sheevah; and these distinguish themselves, the former by painting their faces with an horizontal line, the latter by a perpendicular one. There is, however, very little difference in point of religion between these or any other Hindoo sects. All of them believe in the immortality of the soul, a state of future rewards and punishments, and transmigration. Charity and hospitality are inculcated in the strongest manner, and exist among them not only in theory but in practice. "Hospitality (say they) is commanded to be exercised even towards an enemy, when he cometh into thine house; the tree doth not withdraw its shade even from the wood-cutter. Good men extend their charity even to the vilest animals. The moon doth not withhold her light even from the Chandala." These pure doctrines, however, are intermixed with some of the vilest and most absurd superstitions; and along with the true God they worship a number of inferior ones, of whom the principal are:

1. *Bawaney*, the mother of the gods, already mentioned, and superior to all but Brama himself; but all the other goddesses are reckoned inferior to their gods ⁴ Account of their principal deities.

2. *Brimha*, in the Shanscrit language said to mean "the wisdom of God;" and who is supposed to fly on the wings of the *banse* or flamingo; an image of which is constantly kept near that of the god in the temple

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where he is worshipped. He has a crown on his head, and is represented with four hands. In one of these he holds a sceptre, in another the sacred books or Vedam, in the third a ring or circle as the emblem of eternity, supposed to be employed in assisting and protecting his works.

3. *Serawatej*, the goddess or wife of Brimha, presides over music, harmony, eloquence, and invention. She is also said to be the inventress of the letters called *Devanagry*, by which the divine will was first promulgated among mankind. In the argument of an hymn addressed to this goddess, she is supposed to have a number of inferior deities acting in subordination to her. These are called *Rags*, and preside over each mode, and likewise over each of the seasons. These seasons in Hindostan are six in number; viz. 1. The *Seesar*, or dewy season. 2. *Heemat*, or the cold season. 3. *Vasant*, the mild season or spring. 4. *Greshma*, or the hot season. 5. *Varsha*, the rainy season. 6. *Sarat*, the breaking up or end of the rains.

The *Rags*, in their musical capacity, are accompanied each with five *Ragnies*, a kind of female deities or nymphs of harmony. Each of these has eight sons or genii; and a distinct season is appointed for the music of each rag, during which only it can be sung or played; and this at distinct and stated hours of the day or night. A seventh mode of music belonging to *Deipec*, or *Cupid the inflamer*, is said once to have existed, but now to be lost; and a musician, who attempted to restore it, to have been consumed with fire from heaven.

4. *Vishnou*, the most celebrated of all the Indian deities, is supposed to fly or ride on the garoora, a kind of large brown kite, which is found in plenty in the neighbourhood; and on which Vishnou is sometimes represented as sitting; though at others he is represented on a serpent with a great number of different heads. At some of his temples the bramins accustom all the birds they can find, of the species above mentioned, to come and be fed; calling them by striking upon a brass plate. This deity is said to have had ten different incarnations to destroy the giants with which the earth was infested; and in these he is represented in as many different figures, all of which are to the last degree fantastic and monstrous. His common form is that of a man with four hands, and a number of heads set round in a circle, supposed to be emblems of omniscience and omnipotence. In his first incarnation he is represented as coming out of the mouth of a fish, with several hands containing swords, &c. In another he has the head of a boar with monstrous tusks, bearing a city in the air, and stands upon a vanquished giant with horns on his head. In others of his incarnations, he has the head of a horse or other animals, with a great number of arms brandishing swords, &c.

In some parts of his character this deity is represented not as a destroyer, but a preserver of mankind; and he is then distinguished by the name of *Hary*. Bishop Wilkins describes an image of him in this character at a place named *Jehan-query*, a small rocky island of the Ganges in the province of Bahar. This image is of a gigantic size, recumbent on a coiled serpent, whose numerous heads are twisted by the artist into a kind of canopy over the sleeping god, and from each

of its mouths issues a forked tongue, as threatening destruction to those who should dare to approach.

5. *Sheevah* is represented under a human form, though frequently varied, as is also his name; but he is most frequently called *Sheevah* and *Mahadev*. In his destroying character he is represented as a man with a fierce look, with a snake twisted round his neck. He is thought to preside over good and evil fortune, in token of which he is represented with a crescent on his head. He rides upon an ox.

6. *Vikrama*, the god of victory, is said to have had a particular kind of sacrifice offered to him, somewhat like the scape-goat of the Jews, viz. by letting a horse loose in the forest, and not employing him again.

7. *Tam Rajah*, or *Darham Rajah*, is represented as the judge of the dead, and ruler of the infernal regions, in a manner similar to the Minos and Pluto of the ancient Greeks. He is the son of *Sour*, "the sun," by *Bisookama* daughter of the great architect of the heavenly mansions, and patron of artificers. He rides upon a buffalo, with a sceptre in his hand, having two assistants, *Chiter* and *Gopt*; the former of whom reports the good, and the latter the bad actions of men. These are attended by two genii, who watch every individual of the human race; *Chiter's* spy being on the right, and *Gopt's* on the left. The souls of deceased persons are carried by the *Jambouts* or messengers of death into the presence of *Darham*, where his actions are instantly proclaimed, and sentence passed accordingly. The infernal mansions are named by the Hindoos *Narekha*, and are divided into a great number of places, according to the degrees of punishment to be endured by the criminal; but eternal punishment for any offence is supposed to be inconsistent with the goodness of God. Instead of this, the Hindoos suppose, that after the souls of the wicked have been punished long enough in *Narekha*, they are sent back into the world to animate other bodies either of men or beasts, according to circumstances. Those who have lived a life partly good and partly bad, are likewise sent back to this world; and these trials and transmigrations are repeated till they be thoroughly purged of all inclination to sin. But as for those holy men who have spent their lives in piety and devotion, they are instantly conveyed by the genii to the mansions of celestial bliss, where they are absorbed into the universal spirit; a state according to every idea we can form equivalent to annihilation!

8. *Krishen* and the nine *Gopia*, among the Hindoos, correspond with Apollo and the nine muses of the Greeks. This deity is represented as a young man sometimes playing on a flute. He has a variety of names, and is supposed to be of a very amorous complexion, having once resided in a district named *Birge*, where he embraced almost all the women in the country. From his residence here, or from these amorous exploits, he is sometimes called *Birge-put*.

9. *Kama-deva*, the god of love, is said to be the son of *Maya*, or the general attractive power; married to *Retty*, or *Affection*. He is represented as a beautiful youth, sometimes conversing with his mother or consort in his temples or gardens; at other times riding on a parrot by moonlight: And Mr Forster informs us, that on the taking of Tanjore by the English, a cu-

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^{5.} ^{Their de-} ^{demigods.} rious picture was found, representing him riding on an elephant, the body of which was composed of seven young women twisted together in such a manner as to represent that enormous animal. This is supposed to be a device of a similar nature with that of the Greeks, who placed their *Eros* upon a lion; thus intimating, that love is capable of taming the fiercest of animals. The bow of this deity is said to be of sugar-cane or of *flowers*, and the string of *bees*: he has five arrows, each of them tipped with an Indian blossom of an heating nature. His ensign is a fish on a red ground, carried by the foremost of his attendant nymphs or dancing girls.

10. *Lingam*, corresponding to the Priapus or Phallus of the ancients, is worshipped by the Hindoos in order to obtain fecundity. This deity is adored the more fervently, as they depend on their children for performing certain ceremonies to their manes, which they imagine will mitigate their punishment in the next world. The devotees of the god go naked, but are supposed to be such sanctified persons, that women may approach them without any danger. They vow perpetual chastity; and death is the consequence of a breach of their vow. Husbands whose wives are barren invite them to their houses, where certain ceremonies, generally thought to be effectual, are performed.

Besides these, there are a number of other gods whose character is less eminent, though we are by no means acquainted, nor are the Hindoos themselves perhaps, with the particular rank which each deity carries with respect to another. Some of these deities are, 11. *Nared*, the son of Brimha, and inventor of a fretted instrument named *Vene*. 12. *Lechemy*, the goddess of plenty, and wife of Vishnou. 13. *Gowry*, *Kaly*, from *Kula* "time;" the wife of Sheevah, and goddess of destruction. 14. *Varoona*, the god of the seas and waters, riding on a crocodile. 15. *Vayoo*, the god of the winds, riding on an antelope with a sabre in his hand. 16. *Agnee*, the god of fire, riding on a ram. 17. *Vasoodka*, a goddess representing the earth. 18. *Pakreeety*, or nature, represented by a beautiful young woman. 19. *Sour* or *Shan*, the sun; called also the king of the stars and planets, represented as sitting in a chariot drawn by one horse, sometimes with seven and sometimes with twelve heads. 20. *Sangia*, the mother of the river Jumna, and wife of the sun. 21. *Chandava*, the moon, in a chariot drawn by antelopes, and holding a rabbit in her right hand. 22. *Vreckaspaty*, the god of learning, attended by beautiful young nymphs named *Veedyadbares*, or professors of science. 23. *Ganes*, the god of prudence and policy, worshipped before the undertaking of any thing of consequence. 24. *Fame*, represented by a serpent with a great number of tongues; and known by several names. 25. *Darma-deva*, the god of virtue, sometimes represented by a white bull. 26. *Virsavana* or *Cobhair*, the god of riches, represented by a man riding on a white horse. 27. *Dhan-wantary*, the god of medicine.

Besides these supreme deities, the Hindoos have a number of demigods, who are supposed to inhabit the air, the earth, and the waters, and in short the whole world; so that every mountain, river, wood, town, village, &c. has one of these tutelar deities, as was the

case among the western heathens. By nature these demigods are subject to death, but are supposed to obtain immortality by the use of a certain drink named *Amrut*. Their exploits in many instances resemble those of Bacchus, Hercules, Theseus, &c. and in a beautiful epic poem named *Rancyan*, we have an account of the wars of Rain, one of the demigods, with Ravana tyrant of Ceylon.

All these deities are worshipped, as in other countries, by going to their temples, fasting, prayers, and the performance of ceremonies to their honour. They pray thrice a day, at morning, noon, and evening, turning their faces towards the east. They use many ablutions, and, like the Pharisees of old, they always wash before meals. Running water is always preferred for this purpose to such as stagnates. Fruits, flowers, incense, and money, are offered in sacrifice to their idols; but for the dead they offer a kind of cake named *Peenda*; and offerings of this kind always take place on the day of the full moon. Nothing sanguinary is known in the worship of the Hindoos at present, though there is a tradition that it was formerly of this kind; nay, that even human sacrifices were made use of: but if such a custom ever did exist, it must have been at a very distant period. Their sacred writings indeed make mention of bloody sacrifices of various kinds, not excepting even those of the human race: but so many peculiarities are mentioned with regard to the proper victims, that it is almost impossible to find them. The only instance of bloody sacrifices we find on record among the Hindoos is that of the buffalo to Bawaney, the mother of the gods.

Among the Hindoos there are two kinds of worship, distinguished by the name of the worship of the *invisible God* and of *idols*. The worshippers of the invisible God are, strictly speaking, deists: the idolaters perform many absurd and unmeaning ceremonies, too tedious to mention, all of which are conducted by a bramin; and during the performance of these rites, the dancing women occasionally perform in the court, singing the praises of the Deity in concert with various instruments. All the Hindoos seem to worship the fire; at least they certainly pay a great veneration to it. Bishop Wilkins informs us, that they are enjoined to light up a fire at certain times, which must be produced by the friction of two pieces of wood of a particular kind; and the fire thus produced is made use of for consuming their sacrifices, burning the dead, and in the ceremonies of marriage.

Great numbers of devotees are to be met with every where through Hindostan. Every cast is allowed to assume this way of life excepting the Chandalahs, who are excluded. Those held most in esteem are named *Seniasses* and *Jogeys*. The former are allowed no other clothing but what suffices for covering their nakedness, nor have they any worldly goods besides a pitcher and staff; but though they are strictly enjoined to meditate on the truths contained in the sacred writings, they are expressly forbidden to argue about them. They must eat but once a day, and that very sparingly, of rice or other vegetables; they must also show the most perfect indifference about hunger, thirst, heat, cold, or any thing whatever relative to this world; looking forward with continual desire to the separation of the soul from the body. Should any of them fail in this

Hindoos. extravagant self-denial, he is rendered so much more criminal by the attempt, as he neglected the duties of ordinary life for those of another which he was not able to accomplish. The Yogeys are bound to much the same rules, and both subject themselves to the most extravagant penances. Some will keep their arms constantly stretched over their heads till they become quite withered and incapable of motion; others keep them crossed over their breast during life; while others, by keeping their hands constantly shut, have them quite pierced through by the growth of their nails. Some chain themselves to trees or particular spots of ground, which they never quit; others resolve never to lie down, but sleep leaning against a tree: but the most curious penance perhaps on record is that of a Yogey, who measured the distance between Benares and Jaggernaut with the length of his body, lying down and rising alternately. Many of these enthusiasts will throw themselves in the way of the chariots of Vishnou or Sheevah, which are sometimes brought forth in procession to celebrate the feast of a temple, and drawn by several hundreds of men. Thus the wretched devotees are in an instant crushed to pieces. Others devote themselves to the flames, in order to show their regard to some of their idols, or to appease the wrath of one whom they suppose to be offended.

A certain set of devotees are named *Pandarams*; and another on the coast of Coromandel are named *Cary-Patra Pandarams*. The former rub themselves all over with cow-dung, running about the country singing the praises of the god Sheevah whom they worship. The latter go about asking charity at doors by striking their hands together, for they never speak. They accept of nothing but rice; and when they have got as much as will satisfy their hunger, never give themselves any trouble about more, but pass the rest of the day in the shade, in a state of such supine indolence as scarce to look at any object whatever. The *Tadinums* are another set of mendicants, who sing the incarnations of Vishnou. They have hollow brass rings round their ancles, which they fill with pebbles; so that they make a considerable noise as they walk; they beat likewise a kind of tabor.

⁸ **Mildness of the Hindoo religion.** The greatest singularity in the Hindoo religion, however, is, that so far from persecuting those of a contrary persuasion, which is too often the case with other professors, they absolutely refuse even to admit of a proselyte. They believe all religions to be equally acceptable to the Supreme Being; assigning as a reason, that if the Author of the universe preferred one to another, it would have been impossible for any other to have prevailed than that which he approved. Every religion, therefore, they conclude to be adapted to the country where it is established; and that all in their original purity are equally acceptable.

⁹ **Their marriages.** Among the Hindoos, marriage is considered as a religious duty; and parents are strictly commanded to marry their children by the time they arrive at eleven years of age at farthest. Polygamy is allowed; but this licence is seldom made use of, unless there should be no children by the first wife. In case the second wife also proves barren, they commonly adopt a son from among their relations.

The Hindoos receive no dower with their wives;

but, on the contrary, the intended husband makes a present to the father of his bride. Nevertheless, in many cases, a rich man will choose a poor relation for his daughter; in which case the bride's father is at the expence of the wedding, receives his son-in-law into his house, or gives him a part of his fortune. The bridegroom then quits the dwelling of his parents with certain ceremonies, and lives with his father-in-law. Many formalities take place between the parties even after the match is fully agreed upon; and the celebration of the marriage is attended with much expence; magnificent processions are made, the bride and bridegroom sitting in the same palankeen, attended by their friends and relations; some riding in palankeens, some on horses, and others on elephants. So great is their vanity indeed on this occasion, that they will borrow or hire numbers of these expensive animals to do honour to the ceremony. The rejoicings last several days; during the evenings of which, fire-works and illuminations are displayed, and dancing women perform their feats; the whole concluding with alms to the poor, and presents to the bramins and principal guests, generally consisting of shawls, pieces of muslin, and other cloths. A number of other ceremonies are performed when the parties come of age, and are allowed to cohabit together. The same are repeated when the young wife becomes pregnant; when she passes the seventh month without any accident; and when she is delivered of her child. The relations assemble on the tenth day after the birth, to assist at the ceremony of naming the child; but if the bramins be of opinion that the aspect of the planets is at that time unfavourable, the ceremony is delayed, and prayers offered up to avert the misfortune. When the lucky moment is discovered, they fill as many pots with water as there are planets, and offer a sacrifice to them; afterwards they sprinkle the head of the child with water, and the bramin gives it such a name as he thinks best adapted to the time and circumstances; and the ceremony concludes with prayers, presents to the bramins, and alms to the poor. Mothers are obliged to suckle their own children; nor can this duty be dispensed with except in case of sickness. New ceremonies, with presents to the bramins, take place, when a boy comes of age to receive the string which the three first casts wear round their waist.

¹⁰ **Education of children.** Boys are taught to read and write by the bramins, who keep schools for that purpose throughout the country. They use leaves instead of books, and write with a pointed iron instrument. The leaves are generally those of the palm-tree, which being smooth and hard, and having a thick substance, may be kept for almost any length of time, and the letters are not subject to grow faint or be effaced. The leaves are cut into slips about an inch broad, and their books consist of a number of these tied together by means of a hole in one end. Sometimes the letters are rubbed over with a black powder, to render them more legible. When they write upon paper, they make use of a small reed. Sometimes they are initiated in writing by making letters upon sand strewed on the floor; and they are taught arithmetic by means of a number of small pebbles. The education of the girls is much more limited; seldom extending farther than the articles of their religion.

Among these people the custom of burning the dead prevails.

¹¹
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Barbarous
custom of
women
burning
themselves.

prevails universally; and the horrid practice of wives burning themselves along with their deceased husbands was formerly very common, though now much less so. At present it is totally prohibited in the British dominions; and even the Mohammedans endeavour to discountenance a practice so barbarous, though many of their governors are accused of conniving at it through motives of avarice. At present it is most common in the country of the Rajahs, and among women of high rank.

This piece of barbarity is not enjoined by any law existing among the Hindoos; it is only said to be *proper*, and rewards are promised in the next world to those who do so. But though a wife chooses to outlive her husband, she is in no case whatever permitted to marry again, even though the marriage with the former had never been completed. It is unlawful for a woman to burn herself if she be with child at the time of her husband's decease, or if he died at a distance from her. In the latter case, however, she may do so if she can procure his girdle or turban to be put on the funeral pile along with her. These miserable enthusiasts, who devote themselves to this dreadful death, suffer with the greatest constancy; and Mr Holwel gives an account of one who, being told of the pain she must suffer (with a view to dissuade her), put her finger into the fire and kept it there for a considerable time; after which she put fire on the palm of her hand, with incense upon it, and fumigated the bramins who were present. Sometimes a chapel is erected on the place where one of those sacrifices has been performed; sometimes it is inclosed, flowers planted upon it, and images set up.—In some few places the Hindoos bury their dead; and some women have been known to suffer themselves to be buried alive with their deceased husbands: but the instances of this are still more rare than those of burning.—No woman is allowed any inheritance among the Hindoos; so that if a man dies without male issue, his estate goes to his adopted son or to his nearest relation.

¹²
Instances of
heroism a-
mong the
Hindoos.

The Hindoos, though naturally mild and timid, will on many occasions meet death with the most heroic intrepidity. An Hindoo who lies at the point of death, will talk of his decease with the utmost composure; and if near the river Ganges, will desire to be carried out, that he may expire on its banks. Such is the excessive veneration they have for their religion and customs, that no person will infringe them even to preserve his own life. An Hindoo, we are told, being ill of a putrid fever, was prevailed upon to send for an European physician, who prescribed him the bark in wine; but this was refused with the greatest obstinacy even to the very last, though the governor himself joined in his solicitations, and in other matters had a considerable influence over him. In many instances these people, both in ancient and modern times, have been known, when closely besieged by an enemy whom they could not resist, to kill their wives and children, set fire to their houses, and then violently rush upon their adversaries till every one was destroyed. In the late war, some Seapoys in the British service, having been concerned in a mutiny, were condemned to be blown away from the mouths of cannon. Some grenadiers cried out, that as they had all along had the post of honour, they saw no reason why they should be denied it now;

and therefore desired that they might be blown away first. This being granted, they walked forward to the guns with composure, begged that they might be spared the indignity of being tied, and, placing their breasts close to the muzzles, were shot away. The commanding officer was so much affected with this instance of heroism, that he pardoned all the rest.

In ordinary life the Hindoos are cheerful and lively; ¹³ Their general character. fond of conversation and amusements, particularly dancing. They do not, however, learn or practise dancing themselves, but have women taught for the purpose; and in beholding these they will spend whole nights. They disapprove of many parts of the education of European ladies, as supposing that they engage the attention too much, and draw away a woman's affection from her husband and children. Hence there are few women in Hindostan who can either read or write. In general they are finely shaped, gentle in their manners, and have soft and even musical voices. The women of Kashmere, according to Mr Forster, have a bright olive complexion, fine features, and delicate shape; a pleasing freedom in their manners, without any tendency to immodesty.

The dress of the modest women in Hindostan consists of a close jacket, which covers their breasts, but perfectly shows their form. The sleeves are tight, and reach half way to the elbows, with a narrow border painted or embroidered all round the edges. Instead of a petticoat, they have a piece of white cotton cloth wrapped round the loins, and reaching near the ankle on the one side, but not quite so low on the other. A wide piece of muslin is thrown over the right shoulder; which, passing under the left arm, is crossed round the middle, and hangs down to the feet. The hair is usually rolled up into a knot or bunch towards the back part of the head; and some have curls hanging before and behind the ears. They wear bracelets on their arms, rings in their ears, and on their fingers, toes and ancles; with sometimes a small one in their nostril.

¹⁴
Dress of the
women.

The dress of the dancing women, who are likewise votaries of Venus, is very various. Sometimes they wear a jama, or long robe of wrought muslin, or gold and silver tissue; the hair plaited and hanging down behind, with spiral curls on each side of the face. They are taught every accomplishment which can be supposed to captivate the other sex; form a class entirely different from the rest of the people, and live by their own rules. Their clothes, jewels, and lodging, are considered as implements of their trade, and must be allowed them in cases of confiscation for debt: They may drink spirituous liquors, and eat any kind of meat except beef: Their dances are said to resemble pretty exactly those of the ancient Bacchanalians represented in some of the ancient paintings and bas reliefs. In some of their dances they attach gold and silver bells to the rings of the same metals they wear on their ancles.

The men generally shave their heads and beards, ¹⁵ Dress of the men. leaving only a pair of small whiskers and a lock on the back part of their head, which they take great care to preserve. In Kashmere and some other places, they let their beards grow to the length of two inches. They wear turbans on their heads; but the bramins who officiate in the temples commonly go with their heads uncovered, and the upper part of the body naked:

round

Hindoos. round their shoulder they hang the sacred string called *Zennar*, made of a kind of perennial cotton, and composed of a certain number of threads of a determined length. The Khatries wear also a string of this kind, but composed of fewer threads; the Bhyse have one with still fewer threads, but the Sooderas are not allowed to wear any string. The other dress of the bramins consist of a piece of white cotton cloth wrapped about the loins, descending below the knee, but lower on the left than on the right side. In cold weather they sometimes put a red cap on their heads, and wrap a shawl round their bodies.—The Khatries, and most other of the inhabitants of this country, wear also pieces of cotton cloth wrapped round them, but which cover the upper as well as the lower part of the body. Ear-rings and bracelets are worn by the men as well as women; and they are fond of ornamenting themselves with diamonds, rubies, and other precious stones, when they can procure them. They wear slippers on their feet of fine woollen cloth or velvet, frequently embroidered with gold and silver; those of princes being sometimes adorned with precious stones. The lower classes wear sandals or slippers of coarse woollen cloth or leather. These slippers are always put off on going into any apartment, being left at the door, or given to an attendant; nevertheless the Hindoos make no complaints of the Europeans for not putting off their shoes when they come into their houses, which must certainly appear very uncouth to them.

Hindoo families are always governed by the eldest male, to whom great respect is shown. Filial veneration is carried to such an height among them, that a son will not sit down in the presence of his father until ordered to do so: and Mr Forster observes, that during the whole time of his residence in India, he never saw a direct instance of undutifulness to parents; and the same is related by other writers.

16
Their houses.

The houses of the Hindoos make a worse appearance than could be supposed from their ingenuity in other respects. In the southern parts of the country, the houses are only of one story. On each side of the door, towards the street, is a narrow gallery covered by the slope of the roof which projects over it, and which, as far as the gallery extends, is supported by pillars of brick or wood. The floor of this gallery is raised about 30 inches above the level of the street, and the porters, or bearers of palankeens, with the foot-soldiers named *Peons*, who commonly hire themselves to noblemen, often lie down in this place. This entrance leads into a court, which is also surrounded by a gallery like the former. On one side of the court is a large room, on a level with the floor of the gallery; open in front, and spread with mats and carpets covered with white cotton cloth, where the master of the house receives visits and transacts business. From this court there are entrances by very small doors to the private apartments. In the northern parts, houses of two or three stories are commonly met with. Over all the country also we meet with the ruins of palaces, which evidently show the magnificence of former times.

17
Learning of the Bramins.

The bramins of India were anciently much celebrated for their learning, though they now make a very inconsiderable figure in comparison with the Europeans. According to Philostratus, the Gymnosophists of Ethiopia were a colony of bramins, who, being obliged to

leave India on account of the murder of their king near the banks of the Ganges, migrated into that country. The ancient bramins, however, may justly be supposed to have cultivated science with much greater success than their descendants can boast of, considering the ruinous wars and revolutions to which the country has been subjected. Metaphysics, as well as moral and natural philosophy, appear to have been well understood among them; but at present all the Hindoo knowledge is confined to those whom they call *Pundits*, “doctors or learned men.” These only understand the language called *Shanferit* or *Sanferit*, (from two words signifying perfection); in which the ancient books were written.

The metaphysics of the bramins is much the same with that of some ancient Greek philosophers. They believe the human soul to be an emanation from the Deity, as light and heat from the sun. Gowtama, an ancient metaphysician, distinguishes two kinds of souls, the divine and vital. The former resembles the eternal spirit from which it came, is immaterial, indivisible, and without passions; the vital soul is a subtle element which pervades all things, distinct from organised matter, and which is the origin of all our desires. The external senses, according to this author, are representations of external things to the mind, by which it is furnished with materials for its various operations; but unless the mind act in conjunction with the senses, the operation is lost, as in that absence of mind which takes place in deep contemplation. He treats likewise of reason, memory, perception, and other abstract subjects. He is of opinion, that the world could not exist without a first cause; chance being nothing but the effect of an unknown cause: he is of opinion, however, that it is folly to make any conjectures concerning the beginning or duration of the world. In treating of providence, he denies any immediate interposition of the Deity; maintaining, that the Supreme Being having created the system of nature, allowed it to proceed according to the laws originally impressed upon it, and man to follow the impulse of his own desires, restrained and conducted by his reason. His doctrine concerning a future state is not different from what we have already stated as the belief of the Hindoos in general. According to bishop Wilkins, many of them believe that this world is a state of rewards and punishments as well as of probation; and that good or bad fortune are the effects of good or evil actions committed in a former state.

The science for which the bramins, however, were most remarkable, is that of astronomy; and in this their progress was so great, as even yet to furnish matter of admiration to the moderns.—The Europeans first became acquainted with the Indian astronomy in 1687, from a Siamese MS. containing rules for calculating the places of the sun and moon, brought home by M. Loubere the French ambassador at Siam. The principles on which the tables in this MS. were founded, however, proved to be so obscure, that it required the genius of Cassini to investigate them. The missionaries afterwards sent over two other sets of tables from Hindostan; but no attention was paid to them till M. le Gentil returned from observing the transit of Venus in 1769. During the time of his stay in Hindostan, the bramins had been much more familiar with him on account of his astronomical knowledge, than they usually were

Hindoos.

18

Metaphysics.

19

Their astronomy.

Hindoos.

Edin. Phil.
Transf.

with Europeans; and he thus had an opportunity of obtaining considerable insight into their methods of calculation. In consequence of this instruction he published tables and rules, according to the Indian method, in the academy of sciences for 1772; and in the explanation of these M. Bailly has employed a whole volume. The objects of this astronomy, according to Dr Playfair, are, 1. Tables and rules for calculating the places of the sun and moon. 2. Of the planets. 3. For determining the phases of eclipses. They divide the zodiac into 27 constellations, probably from the motion of the moon through it in 27 days; and to this lunar motion the Doctor ascribes the general division of time into weeks, which has prevailed so universally throughout the world. The days of the week were dedicated to the planets, as by the ancient heathens of the west, and in precisely the same order. The ecliptic is divided into signs, degrees, and minutes, as with us: and indeed their calculations are entirely sexagesimal, the day and night being divided into 60 hours; so that each of their hours is only 24 of our minutes, and each of their minutes 24 of our seconds.

The requisites for calculating by the Indian tables are, 1. An observation of the celestial body in some past moment of time, which is commonly called the Epoch of the tables. 2. The mean rate of the planet's motion. 3. The correction on account of the irregular motion of the body, to be added or subtracted from the mean place, according to circumstances. They calculate the places of the sun and moon, not from the time of their entrance into Aries, but into the moveable Zodiac. Thus the beginning of the year is continually advancing with regard to the seasons; and in 24,000 years will have made the complete round. The mean place of the sun for any time is deduced on the supposition that 800 years contain 292,207 days; from whence, by various calculations, the length of the year comes out only 1' 53" greater than that of De la Caille; which is more accurate than any of our ancient astronomical tables. In the equation of the sun's centre, however, they commit an error of no less than 16'; but Dr Playfair is of opinion that this cannot be ascribed wholly to their inaccuracy, as there was a time when their calculation approached very near the truth; and even at present the error is less than it appears to be.

The motions of the moon are deduced from a cycle of 19 years; during which she makes nearly 235 revolutions; and which period constitutes the famous cycle supposed to have been invented by Meton the Athenian astronomer, and from him called the Metonic Cycle. They are likewise surprisingly exact in calculating the moon's apogee and some of the inequalities of her motion; they know the apparent motion of the fixed stars eastward, and the Siamese tables make it only four seconds too quick; which still shows a great accuracy of calculation, as Ptolemy the celebrated astronomer made an error of no less than 14 seconds in calculating the same thing. M. Cassini, however, informs us, that these tables are not calculated for the meridian of Siam, but for a place 18° 15' to the westward of it, which brings us very near the meridian of Benares, the ancient seat of Indian learning. This likewise agrees with what the Hindoos call their first meridian, which passes through Celon, and the banks

of the river Remananur. It must be observed, however, that the geography of the Hindoos is much more inaccurate than their astronomy.

The date of the Siamese tables is not very ancient; and that of the tables above mentioned sent from Hindostan by the missionaries is still more modern. These, however, are written in such an enigmatical manner, that the missionary who sent them was unable to tell their meaning; and Dr Playfair supposes that even the Bramins themselves were ignorant of it. Nevertheless they were decyphered by M. le Gentil; who thinks that they have the appearance of being copied from inscriptions on stone. The minutes and seconds are not ranged in vertical columns, but in rows under one another, and without any title to point out their meaning or connection.

The tables of Tirvalore are among the most remarkable of all we are yet acquainted with. Their date, according to Dr Playfair, corresponds with the year 3102 B. C. thus running up to the year of the world 902, when Adam was still in life. This era is famous in Hindostan under the name of *Calyougham*: and as this extraordinary antiquity cannot but create some suspicion, Dr Playfair has been at some pains to determine whether it is real or fictitious, *i. e.* whether it has been determined by actual observation, or derived by calculation from tables of more modern date. The result of his labours is, that we are to account the *Calyougham* as determined by observation; and that had it been otherwise, we must have been furnished with infallible methods of detecting the fallacy. His reasons for this opinion are,

1. The task would have been too difficult, even for modern astronomers, to make the necessary calculations, without taking into account the disturbances arising from the action of the heavenly bodies upon one another, and with which we cannot suppose the ancient astronomers to have been equally well acquainted with the moderns. By reason of these variations, as well as from the small errors unavoidable in every calculation, any set of astronomical tables will be found prodigiously inaccurate when applied to any period very far distant from the time of observation. Hence, says our author, "it may be established as a maxim, that if there be given a system of astronomical tables, founded on observations of an unknown date, that date may be found by taking the time when the tables represent the celestial motions most exactly."—This indeed might be done, provided we were furnished with any set of perfectly accurate tables with which we could compare the suspected ones; and Dr Playfair thinks it "a very reasonable postulatium", that our modern astronomical tables, though not perfectly accurate, are yet capable of determining the places of the celestial bodies without any sensible error for a longer period than that of the *Calyougham*.

2. By calculation from our modern tables, it appears that the place of the star Aldebaran, at the commencement of the *Calyougham*, differs only 53' from what the Indian tables make it. He thinks this coincidence the more remarkable, as the bramins, by reason of the inaccuracy of their own date, would have erred by four or five degrees, had they calculated from their most modern tables dated in 1491.

3. At the commencement of this epoch (which, according

Hindoos.

Hindoos. cording to M. Bailly, happened at midnight between the 17th and 18th of February 3102 B. C.) the sun was in $10^{\circ} 3^{\circ} 38' 13''$ by the Indian tables. But the mean longitude of the sun, according to the tables of M. de la Caille, for the same time, comes out to be only $10^{\circ} 1^{\circ} 5' 57''$, supposing the precession of the equinoxes to have been the same at that time as now. M. de la Grange, however, has demonstrated, that, in former ages, the precession of the equinoxes was less than at present; whence there arises an equation of $1^{\circ} 45' 22''$ to be added to the sun's place already mentioned; and thus it will differ only $47'$ from the radical place in the tables of Tirvalore. Notwithstanding this reasoning, however, Dr Playfair thinks that no stress is to be laid upon this argument, as it depends on the truth of a conjecture of M. Bailly that the place of the sun above mentioned was not the mean but the true one.

4. The mean place of the moon at Benares, calculated from Mr Meyer's tables, for the 18th of February 3102 B. C. will be $10^{\circ} 0^{\circ} 51' 16''$, provided her motion had all that time been equable: but the same astronomer informs us, that the motion of the moon is subject to a small but uniform acceleration, about $9''$ in 100 years; which in an interval of 4801 years, must have amounted to $5^{\circ} 45' 44''$; which added to the preceding, gives $10^{\circ} 6^{\circ} 37'$ for the true place of the moon at the commencement of the Calyougham. Now the place of this luminary, at that time, by the tables of Tirvalore, is $10^{\circ} 6^{\circ}$; the difference is less than two thirds of a degree, which, for so remote a period, and considering the acceleration of the moon's motion, for which no allowance could be made in an Indian calculation, is a degree of accuracy that nothing but actual observation could have produced.—This conclusion is confirmed by a computation of the moon's place from all the tables to which the Indians could have any access, and of which the enormous errors would instantly show the deception. Thus, by the tables of Ptolemy, the place of the sun would be $10^{\circ} 21' 15''$ greater; and that of the moon $11^{\circ} 52' 7''$ greater than has just been found from the Indian tables. By those of Ulug Beg, the place of the sun would be $1^{\circ} 30'$, and that of the moon 6° , different from what it is by the Indian tables: and in like manner our author shows that the Indian calculations could not be derived from any other set of tables extant. In like manner, he shows that, with regard to the mean place of the moon, there is a coincidence for a period of more than 4000 years between the tables of Meyer and those of India named *Chrisnabouram*; which, though they bear a more modern date than those of Tirvalore, are thus probably more ancient. "From this remarkable coincidence (says Dr Playfair), we may conclude, with the highest probability, that at least one set of these observations on which the tables are founded, is not less ancient than the era of the Calyougham: and though the possibility of their being some ages later than that epoch is not absolutely excluded, yet it may, by strict mathematical reasoning, be inferred, that they cannot have been later than 2000 years before the Christian era.

5. Since the time that Mr Bailly wrote, every argument respecting the acceleration of the moon's motion has become more worthy of attention, and more conclusive. For that acceleration is no longer a mere
N^o 153.

empirical equation introduced to reconcile the ancient observations with the modern, nor a fact that can only be accounted for by hypothetical causes, such as the resistance of the ether, or the time necessary for the transmission of gravity; but a phenomenon which M. de la Place has with great ability deduced from the principle of universal gravitation, and shown to be necessarily connected with the changes of eccentricity in the earth's orbit discovered by M. de la Grange: so that the action of the moon is indirectly produced by the action of the planets, which alternately increasing and diminishing this eccentricity, subjects the moon to different degrees of that force by which the sun disturbs the time of her revolution round the earth. It is therefore a periodical inequality, by which the moon's motion, in the course of ages, will be as much retarded as accelerated; but its changes are so slow, that her motion has been constantly accelerated, even for a much longer period than that to which the observations of India extend.—To M. de la Grange also we are indebted for one of the most beautiful of the discoveries in physical astronomy, viz. That all the variations in our system are periodical; so that, though every thing, almost without exception, be subject to change, it will, after a certain interval, return to the same state in which it is at present, and leave no room for the introduction of disorder, or of any irregularity that might constantly increase. Many of these periods, however, are of vast duration. A great number of ages, for instance, must elapse, before the year be exactly of the same length, or the sun's equation be of the same magnitude, as at present. An astronomy, therefore, which professes to be so ancient as the Indian, ought to differ considerably from ours in many of its elements. If, indeed, these differences are irregular, they are the effects of chance, and must be accounted errors; but if they observe the laws which theory informs us they do, they must be held as the most undoubted marks of authenticity.

6. Neither these tables of Tirvalore, nor the more ancient ones of Chrisnabouram, are those of the greatest antiquity in India. The bramins constantly refer to an astronomy at Benares, which they emphatically style the *ancient*; and which, they say, is not now understood by them, though they believe it to be much more accurate than that by which they calculate.

From these and other similar arguments, Dr Playfair draws the following conclusions with respect to Indian astronomy. 1. The observations on which it is founded, were made more than 3000 years before the Christian era; and in particular, the places of the sun and moon, at the beginning of the Calyougham, were determined by actual observation. 2. Though the astronomy now in the hands of the bramins is so ancient in its origin, yet it contains many rules and tables that are of later construction. 3. The basis of their four systems of astronomical tables is evidently the same. 4. The construction of these tables implies a great knowledge of geometry, arithmetic, and even the theoretical part of astronomy. All this, however, we find controverted, or at least rendered somewhat doubtful, by William Marsden, Esq. who has written a paper on the chronology of the Hindoos in the Philosophical Transactions for 1790. "The *Kalee Yoo*g (says he), or principal chronological era, began in the year 3102 B. C. according to the common method of computation,

Hindoos.

20
Conclusions
by Dr Play-
fair, con-
cerning the
Indian a-
stronomy.

21
Controvett-
ed by Mr
Marsden.

Hindoos computation, or in 3101 according to the astronomical method, on the 18th of February, at sun-rise; or at midnight, according to different accounts, under their first meridian of *Lauka*.—At that period it is said to be asserted by their astronomers, that the sun, moon, and all the planets, were in conjunction according to their mean places. The reality of this fact, but with considerable modification, has received a respectable sanction from the writings of an ingenious and celebrated member of the French academy of sciences, who concludes that the actual observation of this rare phenomenon, by the Hindoos of that day, was the occasion of its establishment as an astronomical epoch. Although M. Bailly has supported this opinion with his usual powers of reasoning, and although abundant circumstances tend to prove their early skill in this science, and some parts of the mathematics connected with it; yet we are constrained to question the verity or possibility of the observation, and to conclude rather that the supposed conjunction was, at a later period, sought for as an epoch, and calculated retrospectively. That it was widely miscalculated too, is sufficiently evident from the computation which M. Bailly himself has given of the longitudes of the planets at that time, when there was a difference of no less than 73° between the places of Mercury and Venus. But fifteen days after, when the sun and moon were in opposition, and the planets far enough from the sun to be visible, he computes that all, except Venus, were comprehended within a space of 17° ; and on this he grounds his supposition of an actual observation.

“In their current transactions the inhabitants of the peninsula employ a mode of computation of a different nature, which, though not unknown in other parts of the world, is confined to these people among the Hindoos. This is a cycle, or revolving period, of 60 solar years, which has no farther correspondence with their other eras than that of their years respectively commencing on the same day. Those that constitute the cycle, instead of being numerically counted, are distinguished from each other by appropriate names, which in their epistles, bills, and the like, are inserted as dates, with the months, and perhaps the age of the moon annexed; but in their writings of importance and record, the year of *Salaban* (often called the *Saka* year) is superadded; and this is the more essential, as I do not find it customary to number the cycles by any progressive reckoning. In their astronomical calculations we observe, that they sometimes complete the year of their era by multiplying the number of cycles elapsed, and adding the complement of the cycle in which it commenced, as well as the years of the current cycle; but from hence we are led to no satisfactory conclusion concerning this popular mode of estimating time. The presumption is in favour of its being more ancient than their historical epochs. The present cycle, of which forty-three complete years were expired in April 1790, began in 1747, with the year of *Salaban* 1669, and of the grand era 4848. M. le Gentil, to whom Europe is chiefly indebted for what is known of Hindoo astronomy, has fallen into an unaccountable error with regard to the years of this cycle, and their correspondence with those of the *Kalee Yoog*, as appears by the comparative table he has given of them,

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and other passages of his work. He seems to have taken it for granted, without due examination, that the year 3600 of the latter must have been produced by the multiplication of the cycle of 60 into itself; and consequently that the first year of this grand era must likewise have been the first of the cycle. But this is totally inconsistent with the fact; the *Kalee Yoog* began the thirteenth year of the cycle of 60; and all the reasoning founded on the self-production and harmony of these periods must fall to the ground.”

From what Mr Marsden here sets forth, it is plain that we must make very considerable abatements in our confidence of the extreme antiquity of the Hindoos observations. Indeed we can scarce conceive a possibility of reconciling such extravagant antiquity with the authentic histories of which we are possessed, or with those of scripture. The want of an ancient history of Hindostan leaves us indeed in the dark, and gives room for ingenious and speculative men to indulge themselves in marvellous reveries concerning their antiquity. But the flood, we know, which if it existed at all, could not be but general over the whole earth*, must have destroyed every monument of art and science; and it is surely more reasonable to believe, that M. le Gentil, or the most learned man in the present age, has been mistaken (even though we should not be able to determine the particular manner), than at once to deny the authenticity of all history both sacred and profane, and attempt to evade evidence which no power of reasoning can ever set aside.

It is, however, undeniable, that the progress of the Hindoos in geometry as well as astronomy has been very great in ancient times. Of this a most remarkable instance is given by Dr Playfair, in their finding out the proportion of the circumference of a circle to its diameter to a great degree of accuracy. This is determined, in the *Ayeen Akbary*, to be as 3927 to 1250; and which, to do it arithmetically in the simplest manner possible, would require the inscription of a polygon 768 sides; an operation which cannot be performed without the knowledge of some very curious properties of the circle, and at least nine extractions of the square root, each as far as ten places of decimals. This proportion of 1250 to 3927 is the same with that of 1 to 3.1416; and differs very little from that of 113 to 155 discovered by Metrus. He and Vieta were the first who surpassed the accuracy of Archimedes in the solution of this problem; and it is remarkable that these two mathematicians flourished at the very time that the *Ayeen Akbary* was composed among the Hindoos.—In geography, however, they are much deficient; and it is very difficult to find out the true situation of the meridians mentioned by their authors from what they have said concerning them.

The art of painting among the Hindoos is in an imperfect state; nor are there any remains of antiquity which evince its ever being more perfect than it is just now. Their principal defect is in drawing, and they seem to be almost totally ignorant of the rules of perspective. They are much better skilled in colouring; and some of their pictures are finished with great nicety. Their sculptures are likewise rude, and greatly resemble those of the Egyptians. They seem to follow no regular rules in architecture: their temples in-

3 T

deed

Hindoos.

* See the article *Dz-luge*.

22
Great skill of the Hindoos in geometry.

23
Painting, sculpture, &c.

Hindoos.

deed are filled with innumerable columns, but most of them without any just shape or proportion. They are principally remarkable for their immense size, which gives them an air of majesty and grandeur.

24
Music.

The music of the Hindoos is but little known to Europeans; and the art seems to have made but little progress among them in comparison with what it has done in the western countries; though some of the Indian airs are said to be very melodious. Their musical instruments are very numerous: in war they use a kind of great kettle drum named *nagar*, carried by a camel, and sometimes by an elephant. The *dole* is a long narrow drum slung round the neck; and the *tam-tam* is a flat kind of drum resembling a tabor, but larger and louder. They use also the cymbal, which they name *talan*; and they have various sorts of trumpets, particularly a great one named *tary*, which emits a most doleful sound, and is always used at funerals, and sometimes to announce the death of persons of distinction.

25
Jugglers,
and en-
chanters of
serpents.† See Or-
deal.

The jugglers among the Hindoos are so expert, that many of the missionaries have ascribed their tricks to supernatural power; and even so a late traveller as Mr Grose seems to be not of a very different opinion†. Like the Egyptians, they seem to have the power of disarming serpents of their poison; and there are many strollers who go about with numbers of these animals in bags, having along with them a small bagpipe called *magouty*, which they pretend is useful to bring them from their lurking places. They take the serpents, though of the most poisonous kinds, out of the bags with their naked hands, and throw them on the ground, where they are taught to rear and move about to the sound of their music. They say that this is accomplished by means of certain incantations.

26
Antiquity
of fire-arms
among the
Hindoos.

The use of fire-arms appears to have been of great antiquity in India. They are prohibited by the code of Gentoo laws, which is certainly of a very ancient date. The phrase by which they are denominated is *agnecaster*, or weapons of fire; and there is also mention made of *shet agnee*, or the weapon that kills an hundred men at once. It is impossible to guess at the time when those weapons were invented among the Hindoos; but we are certain, that in many places of the east, which have neither been frequented by Mohammedans nor Europeans, rockets are almost universally made use of as weapons of war. The Hindoo books themselves ascribe the invention of fire-arms to *Baeshkookerma*, who formed all the weapons made use of in a war betwixt the good and evil spirits. Fireballs, or blue lights, employed in besieged places in the night-time, to observe the motions of the besiegers, are met with every where through Hindostan, and are constructed in full as great perfection as in Europe. Fireworks also are met with in great perfection; and, from the earliest ages, have constituted a principal article of amusement among the Hindoos. Gun-powder, or a composition somewhat resembling it, has been found in many other places of the east, particularly China, Pegu, and Siam; but there is reason to believe that the invention came originally from Hindostan. Poisoned weapons of all kinds are forbidden in this country.

27
Ingenuity
in various
arts.

The Hindoos are remarkable for their ingenuity in all kinds of handicraft; but their utensils are simple,

and in many respects inconvenient, so that incredible labour and patience are necessary for the accomplishment of any piece of work; and for this the Hindoos are very remarkable. Lacquering and gilding are used all over the country, and must have been used in very early ages; though in some places the lacquering is brought to much greater perfection than in others.

The principal article of food throughout all Hindostan is rice, and of consequence the cultivation of it forms the principal object of agriculture. In this the most important requisite is plenty of water; and when there happens to be a scarcity in this respect, a famine must be the consequence. To prevent this as far as possible, a vast number of tanks and water-courses are to be met with throughout the country, though in some places these are too much neglected, and gradually going to decay. After the rice is grown to a certain length, it is pulled up, and transplanted into fields of about 100 yards square, separated from each other by ridges of earth; which are daily supplied with water let in upon them from the neighbouring tanks. When the water happens to fall below the level of the channels made to receive it, it is raised by a simple machine named *picoti*, the construction of which is as follows. A piece of timber is fixed upright in the ground, and forked so as to admit another piece to move transversely in it by means of a strong pin. The transverse timber is flat on one side, and has pieces of wood across it in the manner of steps. At one end of this timber there is a large bucket, at the other a weight. A man walking down the steps throws the bucket into the well or tank; by going up, and by means of the weight, he raises it; and another person standing below empties it into a channel made to convey the water into the fields. The man who moves the machine may support himself by long bamboos that are fixed in the way of a railing from the top of the piece of upright timber towards the wall.

A number of other kinds of grain are to be met with in Hindostan, but wheat is not cultivated farther south than 18° latitude. It is imported, however, to every part of the country by the Banjaries. These are a set of people belonging to no particular cast, who live in tents, and travel in separate bodies, each of which is governed by its own particular regulations. They frequently visit towns on the sea-coast, with bullocks loaded with wheat and other articles; carrying away in exchange spices, cloths, but especially salt, which they carry into the inland parts of the country. Some of their parties have several thousands of oxen belonging to them. They are rarely molested, even in time of war, otherwise than by being sometimes pressed into the service of an army to carry baggage or provisions; but for this they are paid, and dismissed as soon as the service is over. The Hindoos themselves are prohibited from going out of the country, under the severest of all penalties, that of losing their cast. Notwithstanding this, however, it is certain that they do settle in foreign parts in the character of merchants and bankers. Perhaps these may have a toleration from the principal bramin, or there may be an exemption for people of their profession; but this is not known. At any rate, wherever they go, they appear inviolably attached to their religious ceremonies, and refuse to eat what is prohibited to them in their

Hindoos.

28

Culture of

rice.

29

Account of
the Banja-
ries.

Hindostan.
30
Miserable
state of the
husband-
men.

their own country. The Ryots, or people who cultivate the ground, are in many places in the most miserable situation; their only food being some coarse rice and pepper, for which they are obliged to endure all the inclemencies of a burning sun, and the inconveniences which attend alternately wading in water and walking with their bare feet on the ground heated intensely by the solar rays; by which they are frequently blistered in a miserable manner. All this, however, they submit to with the utmost patience, and without making any complaint, expecting to be released from their sufferings by death; though even then their religion teaches them to hope for nothing more than what they call *absorption into the essence of the Deity*; a state almost synonymous with what we call *annihilation*.

HINDOSTAN, a celebrated and extensive country of Asia, bounded on the north by Great and Little Thibet; on the south, by the hither peninsula of India, part of the Indian Sea, and Bay of Bengal; on the west, by Persia; and on the east, by Thibet and the farther peninsula. It is situated between 84° and 102° of east longitude, and between 21° and 36° of north latitude; being in length about 1204 miles, and in breadth 960; though in some places much less.

1
Derivation
of the
names.

This country was in early times distinguished among the Greeks by the name of *India*, the most probable derivation of which is from *Hind* the Persian name. We are assured by Mr Wilkins, that no such words as *Hindoo* or *Hindostan* exist in the Sanscrit or learned language of the country; in which it is named *bharata*, a word totally unknown to Europeans. The first accounts we have of Hindostan are from Herodotus, who lived 113 years before the expedition of Alexander the Great. His accounts, however, convey very little information, as he appears only to have heard of the western part of the country, and that on account of its being tributary to Persia. He informs us, that Darius Hytaspes, about 508 B. C. had sent Scylax of Caryandra to explore the river Indus. He set sail from Caspatyrus, a town near the source of the Indus, and the territories of *Pactya* (which major Rennel supposes to be the modern *Pekhely*), and continued his course eastward to the sea; then altering his course to the west, he arrived at that place where the Phœnicians had formerly sailed round the continent of Africa; after which Darius subdued the Indians, and became master of that sea. The northern inhabitants of India, he says, resembled the Bactrians in their manners, and were more valiant than the rest; those far to the southward were as black as the Ethiopians, killed no animals, but lived chiefly upon rice; and clothed themselves with cotton. By the expedition of Alexander,

3
The know-
ledge of
the Greeks
augmented
by Alex-
ander's ex-
pedition.

the Greeks acquired a little more knowledge of the country of Hindostan, though he did little else than march over the tracts described by Herodotus. He was informed of the existence of the river Ganges, which had not been known to Herodotus; and the story of his supposing that he had discovered the source of the Nile, when near the head of the Indus, is well known, as well as his surprise and consternation when he arrived at the mouth of that river, on account of the high tides. Major Rennel is of opinion that both

these stories are falsehoods. He thinks it is impossible that Alexander could have been ignorant of the writings of Herodotus, who gave an account of the discoveries of Scylax; and with regard to the other circumstance he expresses himself as follows. "The story of Alexander's surprise at seeing the tides in the Indus, appears to me equally improbable; seeing that the same Herodotus, book iii. speaks very particularly of the tides in the Red Sea, and describes them as being not only strong, but ebbing and flowing every day. (That most intelligent and ingenious traveller M. Volney informs us, that the tide ebbs and flows three feet and an half at Suez). Arrian takes no notice of the tides until Alexander's fleet had arrived near the mouth of the river. It is true, the tide in the Indus does not go up so high as in other rivers of equal bulk, and that run on so small a descent; but nevertheless, as the tide is perceptible at 50 or 60 miles above the river's mouth, we may conclude, that it could hardly escape the notice of Alexander and his people in their voyage from Pattala to the sea, supposing they had not been apprised of the circumstance. Besides, Arrian's account of the tide which did so much mischief to the fleet, is descriptive of the *bore*, or sudden influx of the tide, in a body of water elevated above the common surface of the sea; such as occurs in the Ganges, &c. He says, those ships which lay upon the sand were swept away by the fury of the tide; while those that stuck in the mud were set afloat again without any damage. To the generality of readers no reason will appear why the circumstances of the ships should be different in the mud and on the sand: the fact is, that the bottoms of channels in great rivers are muddy, while their shallows are formed of sand; and it is the nature of the bore to take the shortest cut up a river, instead of following the windings of the channel; consequently it must cross the sand-banks it meets in its way, and will also prove more destructive to whatever it meets with a ground than what is a float." For an account of the exploits of Alexander in Hindostan, see the article *MACEDON*.

4
History
from the
time of
Alexander
to that of
the Mogul
Moham-
medans.

The Grecian expedition into India soon excited a general curiosity in the Europeans to become acquainted with a country so wealthy and so remote. Megasthenes, the ambassador of Seleucus, resided long at Palibothra the capital of an Indian nation, and from him the ancient writers learned most of what they knew concerning that part of the world. He lived about 300 years before the Christian era, and kept a journal during the time he resided in India.

For some short time the western provinces of India continued subject to the Syrian empire founded by Seleucus; but he quickly ceded these distant countries to one Sandrocottus, who gave him only 500 elephants in exchange. Soon after this the province of Bactria likewise became independent; and thus the connection betwixt India and the western parts of the world was entirely dissolved, and we are almost entirely ignorant of the transactions of that country till the time of the Mohammedan conquest. That the extensive country we now call *Hindostan* was divided among many different nations, we have no reason to doubt; but major Rennel is of opinion, that however this might be the case, there was generally a large empire or kingdom, which

Hindoostan. occupied the principal part of that immense valley through which the Ganges takes its course; the capital of which has fluctuated between Dehli and Patna, as the limits of the empire have varied. This was named the kingdom of the *Prasij* or *Gangarida* in the times of Alexander and Megasthenes. Major Rennel is of opinion that it extended westward to the Panjab country; and he also thinks it probable that the capital named *Palibothra* stood on the same spot which is now occupied by the city of Patna. The kingdom, according to this supposition, would occupy part of Bengal; and he thinks that it could not be less than that of France. It was on the borders of this kingdom that Alexander's army mutinied and refused to proceed any farther. Arrian informs us, that the people were rich, excellent soldiers, and good husbandmen; that they were governed by nobility, and that their rulers imposed nothing harsh upon them.

5
No ancient
Hindoo hi-
story to be
credited.

The Hindoos themselves pretend to an extravagant antiquity; but we are informed by major Rennel, that "there is no known history of Hindoostan (that rests on the foundation of Hindoo materials or records) extant before the period of the Mohammedan conquests; for either the Hindoos kept no regular histories, or they were all destroyed, or secluded from common eyes by the Pundits. We may judge of their traditions by that existing concerning Alexander's expedition; which is, that he fought a great battle with the emperor of Hindoostan near Delhi, and though victorious, retired to Persia across the northern mountains; so that the remarkable circumstance of his sailing down the Indus, in which he employed many months, is sunk altogether. And yet, perhaps, few events of ancient times rest on better foundations than this part of the history of Alexander, as appears by its being so highly celebrated, not only by cotemporaries, but by several of the most eminent authors for some centuries following. The only traces of Indian history we meet with are in the Persian historians. In the beginning of the 17th century, Mohammed Ferishta composed an history of Hindoostan, most of which was given in that of colonel Dow, published upwards of 30 years ago; but with regard to the early part of it, major Rennel is of opinion that it cannot at all be depended upon.

6
Expeditions
of Mah-
mud Gazni
into India.

The authentic history of Hindoostan commences with the conquests of Mahmud or Mahmood Gazni, about the year 1000. His kingdom had arisen out of that of the Saracens, who under the khaliff Al Walid had extended their conquests immensely both to the east and west. Mahmud was the third from Abistagi a governor of Khorasan, who had revolted from the king of Backharia. He possessed great part of that country formerly known by the name of *Bactria*. Gazni, Gazna, or Ghizni, was the capital; a city which stood near the source of the Indus, though Balkh likewise claimed this honour. Subuctagi, the father of Mahmud, had projected the conquest of the western part of India; but dying before he could put his designs in execution, Mahmud took upon himself the conduct of the expedition; but previous to his invasion of India, he strengthened himself by the conquest of the whole of the ancient *Bactria*. His first invasion took place in the year 1000; during which he made no farther progress than the province of Moultan. That part of the country was inhabited by the Kuttry and

Rajpoot tribe, the Malli and Catheri of Alexander, who still retained their ancient spirit, and made a very stout resistance to the armies of that furious enthusiast. As he was prompted to this undertaking no less by a desire of exterminating the Hindoo religion than by that of conquest, a league was at last formed against him among all the Indian princes from the banks of the Ganges to the Nerbudda. Their allied forces, however, were defeated, and the year 1008 was marked by the destruction of the famous temple of Nagra-cut in the Panjab country. Having satiated himself with plunder on this occasion, Mahmud returned to his own country; but in 1011 invaded Hindoostan once more, destroying Tanafar a city on the west of Delhi, and a more celebrated place of worship than Nagra-cut itself. Delhi was reduced on this occasion; and in seven years after Canoge was taken; the temples of Matra or Methura, the Methora of Pliny, a city of great antiquity, and remarkable for a place of worship near Agra, were likewise demolished; but he failed in his attempts on the Rajpoots of Agimere, either through their own valour or the strength of their country. His 12th expedition took place in the year 1024, when he destroyed the celebrated temple of Sumnaut in the peninsula of Guzerat, adjoining to the city of Puttan on the sea-coast, and not far from the island of Diu, now in the hands of the Portuguese. In this expedition he proved very successful, reducing the whole peninsula of Guzerat, with many cities, the temples of which he constantly destroyed; and indeed seemed no less pleased with the overthrow of the Hindoo religion than with the conquest of the country. At his death, which happened in 1028, he was possessed of the eastern and by far the largest part of Persia, and nominally of all the provinces from the western part of the Ganges to the peninsula of Guzerat; as well as those lying between the Indus and the mountains of Agimere; but the Rajpoots in that country still preserved their independency, which they have done all along, even to the present time.

In the year 1158 the empire of Gazna fell to pieces from the same causes by which other large and unwieldy states have been destroyed. The western and largest part, which still retained the name of Gazna, was seized upon by the family of Gaurides, so named from Gaur or Ghor, a province beyond the Indian Caucasus; while those contiguous to both shores of the Indus were allowed to remain in the possession of Chusero or Cusroe, whose capital was fixed at Lahore. In 1184 the posterity of this prince were driven out of their territories by the Gaurides; by which means the Mohammedans became neighbours to the Hindoos, and in a short time began to extend their dominions to the eastward. In 1194 Mohammed Gori penetrated into Hindoostan as far as Benares, and repeated the same scenes of devastation which had formerly taken place under Mahmud Gazni. At this period major Rennel is of opinion, that the purity of the language of Hindoostan began to decline, and continued to do so till it became what it is at present; the original dialect being what is called the Sanscrit, and which is now a dead language. Mohammed Gori also reduced the southern part of the province of Agimere, and the territory to the south of the river Jumna, taking possession of the strong fortress of Gualior.

After

Hindostan After his death in 1205, the empire of Gazna was again divided; and the Patan or Alghan empire was founded by Cuttub, who had the Indian part, the Persian remaining to Eldoze. Cuttub fixed his imperial residence at Delhi; and in 1210 the greatest part of Hindostan Proper was conquered by the emperor Altumish, the successor of Cuttub. After his time the government of Bengal was always bestowed upon one of the reigning emperor's sons; and during his reign the bloody conqueror Jenghiz Khan put an end to the other branch of the Gaznian empire, known by the name of *Kharasm*; of which revolution an account is given under the article *GAZNA*; but Hindostan was at that time left undisturbed. In 1242 the Moguls began to make irruptions into Indostan, but did not at this time make any permanent conquest. The country was now in much the same state in which it had been before the invasion of the Mahomedans, viz. divided into a great number of states tributary to the emperor, but in a great measure independent; and which did not fail to revolt whenever a favourable opportunity offered. The kingdom of Malwa, which had been reduced by Cuttub in 1205, shook off the yoke in the year 1265, and the Rajpoots were on every occasion ready to revolt, notwithstanding that their country lay in the neighbourhood of the capital. The most dreadful massacres, rebellions, and confusion, now took place, which from that period almost to the time that the British government commenced, make up the history of Hindostan. The empire being parcelled out among a set of rapacious governors, the people were reduced to the last degree of misery, and were at last so far misled as to imagine that it was their interest to take up arms, in order to render these governors independent. Had the emperors of Hindostan consulted their true interest, they would have given up the provinces which lay beyond the upper part of the Indus and the deserts of Agimere; as these formed a barrier which could not easily be passed by any invader. By neglecting this precaution, however, they at last gave an opportunity to the Moguls to penetrate into their country; and these, after several invasions, became at last so formidable, that they were permitted by the emperors, in the year 1292, to settle in the country. At this time the reigning emperor was Feroze II. of the tribe of *Chilligi* or *Killigi*, so named from Killige near the mountains of Gaur; and in 1293 this emperor projected the conquest of the Deccan; by which was meant at that time all the territory lying to the southward of the Nerbudda and Mahanada and Cattack rivers; an extent of dominion almost equal to all that he already possessed in Hindostan. Feroze was incited to attempt this by the riches of one of the princes of Deccan; and the person who proposed it was one Alla, governor of Gurrah, a country nearly bordering upon that which he was about to invade. Alla, having accomplished his undertaking, during which he amassed an incredible quantity of treasure, deposed and murdered the emperor, assuming to himself the sovereignty of Hindostan. He then began a new plan of conquest; and the first instance of his success was the reduction of Guzerat, a strong fortress, which had hitherto remained independent, and, while it continued so, was a strong obstacle to his designs upon the Deccan. He next reduced Rantanpour and

Cheitore, two of the strongest forts in the Rajpoot Hindostan country. In 1303 the city of Warangole, capital of a kingdom of the Deccan, named Tellingana, was reduced; but in the midst of these conquests the Moguls invaded the country from an opposite quarter, and plundered the suburbs of Delhi. Notwithstanding this check the emperor resumed his plan of conquest; the remainder of Malwa was subdued; and in 1306 the conquest of the Deccan was again undertaken. The conduct of the war was now committed to Cafoor; who not only carried his army into Dowlatabad, but, in 1310, penetrated into the Carnatic also. The extent of his conquests in that country is not known; and indeed his expeditions seem to have been made with a view rather to plunder than to achieve any permanent conquest. The quantity of riches he amassed was so great, that the soldiers are said to have carried away only the gold, leaving silver behind them as too cumbersome. As the treasure carried off on this occasion had been accumulating for a number of ages, it is probable that the country had long remained in a state of tranquillity.

Cafoor still proceeding in his conquests, ravaged a second time the northern part of the Deccan, and obliged the inhabitants of Tellingana and the Carnatic to become tributary to him. Rebellions took place in 1322; but the country was again reduced in 1326, and the whole Carnatic ravaged from one sea to the other. This year Alla died, and his successors, not being possessed of his abilities, were unable to retain the dominions he had left. Under the emperor Mohammed III. the people of the Deccan again revolted, and drove the Mahomedans so completely out of these countries, that nothing remained to them but the fortress of Dowlatabad. In 1344 the city of Bijnagar, properly *Bijnagar*, was founded by Belaldeo the king of Deccan, who had headed the inhabitants in their late revolt. Mohammed in the mean time attempted to extend his dominions towards the east; but while he employed himself in this, many provinces were lost by rebellions in Bengal, Guzerat, and the Panjab. His successor Feroze III. who ascended the throne in 1351, seemed more desirous of improving the remains of his empire than of extending it; and, during his reign, which continued for 37 years, agriculture and the arts were the favourite objects of his pursuit. After his death, in 1388, a rebellion and civil war took place, and continued for several years; and matters were brought to a crisis in the time of Mahmud III. who succeeded to the throne in 1393; and, during this time, the empire of Hindostan exhibited the singular circumstance of two emperors residing in the same capital, and in arms against each other. While matters remained in this situation, Tamerlane, after having subdued all the western part of Tartary and Asia, turned his arms against Hindostan in the year 1398. His conquest was easy, and his behaviour such as rendered him worthy of the name by which he is yet known in Hindostan, "the destroying prince." After having brought into captivity a vast number of the poor inhabitants, he caused a general massacre to be commenced lest they should join the enemy in case of any sudden emergency; and in consequence of this cruel order, upwards of 100,000 were put to death in one hour. In the beginning of the year 1399 he was met by the Indian army, whom he defeated with great slaughter.

8
First invasion of the Moguls.

9
The country of Deccan conquered.

10
Revolts and confusion throughout the whole empire.

11
Conquests and massacres of Tamerlane.

Hind stan. slaughter, and soon after made himself master of the imperial city of Delhi. At this time the capital consisted of three cities, named *Old Delhi*, *Seyri*, and *Jehan Penab*. Seyri was surrounded with a wall in the form of a circle; and Old Delhi was the same, but much larger, lying to the southwest of the other. These two were joined on each side by a wall; and the third, which was larger than the other two, lay between them. As the city made no resistance, there could not be a pretence for using the inhabitants with any cruelty; and thus matters passed on quietly till the 12th of January, when the Tartar soldiers insulted some of the inhabitants at one of the gates. The Emirs were ordered to put a stop to these disorders, but found it impossible. The Sultanas, having a curiosity to see the rarities of Delhi, and particularly a famous palace adorned with 1000 pillars built by an ancient Indian king, went in with all the court; and the gate being thus left open for every body, above 15,000 soldiers got in unperceived. But there was a far larger number of troops in a place between the cities above mentioned, who committed such disorders, that an insurrection commenced; some of the inhabitants attacking them, while others, in despair, set fire to their houses, and burnt themselves with their wives and children. The soldiers, taking advantage of this confusion, pillaged the houses; while the disorder was augmented by the admission of more troops, who seized the inhabitants of the neighbouring cities that had fled to Delhi for shelter. The Emirs caused the gates to be shut; but they were quickly opened by the soldiers, who rose in arms against their officers; so that, by the morning of the next day, the whole army was entered, and the city totally destroyed. Some soldiers carried off no fewer than 150 slaves, men, women, and children; nay, some of their boys had 20 slaves a-piece to their share. The other spoils in jewels, plate, and manufactures, were immense: for the Indian women and girls were all adorned with precious stones, and had bracelets and rings on their hands, feet, and even toes, so that the soldiers were loaded with them. On the 15th the Indians attempted to defend themselves in the great mosque of Old Delhi; but being attacked by the Tartars, they were all slaughtered, and towers erected. A dreadful carnage now ensued throughout the whole city, though several days elapsed before the inhabitants could be forced to quit it entirely; and as they went, the Emirs took many of them into their service. The artisans were also distributed among the princes and commanders, all but the masons, who were reserved for the emperor, in order to build him a large stone mosque at Samarcand.

After this terrible devastation, Tamerlane marched into the different provinces of Indostan, every where defeating the Indians who opposed him, and slaughtering the Ghebrs or worshippers of fire. On the 25th of March he retired, and thus set the miserable inhabitants free from the most bloody conqueror that had ever invaded them. He did not, however, disturb the succession to the throne, but left Mahmud in quiet possession of it, reserving to himself only that of the Panjab country. The death of Mahmud, which happened in 1413, put an end to what is called the Patan dynasty, founded by Cuttub in 1205. He was succeeded by Chizer, who derived his pedigree from the im-

postor Mohammed, and his posterity continued to enjoy it till the year 1450; when Belloli, an Alghan of the tribe of Lodi, took possession of it, the reigning prince Alla II. having abdicated the government. Under him all Hindostan was divided into separate states; and a prince, whose title was the *king of the East*, who resided at Jionpour in the province of Allahabad, became so formidable, that the king of Delhi had only a shadow of authority remaining to him. A considerable part of the empire, however, was recovered by the son of Belloli; who, in the year 1501, fixed his royal residence at Agra. During his reign the Portuguese first accomplished the passage to India by the Cape of Good Hope, but they had no connection with any other part of Hindostan than some maritime places in the Deccan which had always been independent of the court of Delhi. In 1516, during the reign of Ibrahim II. matters fell into such confusion that Sultan Baber, a descendant of Tamerlane, found means to conquer a very considerable part of the empire. His first expedition took place in the year 1518; and the year 1525 made himself master of Delhi. In his last invasion he is said to have brought with him only 10,000 horse; having been furnished with the rest by the disaffected subjects of the emperor. During the five years that he reigned, his chief employment was the reduction of some of the eastern provinces, but had not time to compose the disturbances which took place throughout the whole of his dominions. On his death the seeds of rebellion, which Baber had not been able to exterminate, produced so many revolts and insurrections, that his son Humaioo, though a prince of great abilities and virtue, was driven from the throne, and obliged to take shelter among the Rajpoot princes of Agimere, where he lived in great distress. During the time of his exile his son Ackbar was born, whom Mr Rennel looks upon to be one of the greatest princes that ever sat on the throne of Hindostan. The sovereignty was held in the mean time by an usurper, named Sheerkhan, who in 1545 was killed at the siege of Cheitore, and buried in a magnificent mausoleum, of which Mr Hodges lately exhibited a drawing in this country. His territories, at the time of his death, extended from the Indus to Bengal; but so unsettled was the government, that after his decease no fewer than five sovereigns appeared in the space of nine years. This induced a strong party in Hindostan to recal Humaioo; but he lived only one year after his return.

In 1555, Humaioo was succeeded by his son Ackbar, at that time only 14 years of age. During his long reign of 51 years, he established the empire on a more sure foundation than it had probably ever been before; though even at this time Mr Rennel is of opinion, that all the tranquillity enjoyed by the people was merely that there was no actual rebellion. The first years of his reign were spent in reducing the provinces which had revolted from Agimere to Bengal; and the obedience of these he took care to secure as well as possible by a careful choice of governors; particularly by an unlimited toleration in religious matters, and an attention to the rights and privileges of the people. In 1585, he resolved to invade the Deccan, which had hitherto resisted the power of the Mogul princes. The war continued for 20 years; during all which time no farther

12
Reign of
Ackbar, a
great
prince.

Hindustan. farther progress was made than the reduction of the western part of Berar, Candesh, Tellingana (a division of Golconda), and the northern part of Amednagur; the capital of which, named also *Amednagur*, was taken in 1601, after a long and bloody siege, and an unsuccessful attempt of the princes of the Deccan to relieve it. Under his successor Jehan Guire, the project was but faintly carried on; the empire was disturbed by the rebellion of Shah Jehan the emperor's son; and the influence of Noor Jehan his mistress perplexed the councils of the nation. In this prince's reign Sir Thomas Roe, the first English ambassador, arrived at the court of Hindostan. The Portuguese had now acquired considerable possessions in Guzarat and Bengal, but only those in the former province attracted the attention of the court; so that the Persian historian takes no notice of those in Bengal. In the reign of Shah Jehan, who succeeded his father Jehan Guire in 1627, the conquest of the Deccan was more vigorously pushed than before; and the war was carried on in such a destructive manner, that most of the princes in those parts were fain to make submission to the emperor. During this reign a war took place with the Portuguese, which ended in the expulsion of the latter from Hoogly on the Ganges. In his private character Shah Jehan was a very debauched and wicked prince, which gave occasion to one of his sons named *Aureng-zib* or *Aureng-zebe*, to dethrone him.

13
Bad conduct of his successors.

14
The empire raised to its greatest height by Aureng-zebe.

This prince attained his end by a train of deep hypocrisy and dissimulation; covering his ambition with a pretence of religion, and under that pretence committing the greatest crimes. He engaged in a war with two of his brothers, both of whom he defeated by unforeseen accidents, when he himself seemed to be on the brink of destruction. Having at last got them into his power, he put them both to death, and then lamented their misfortune. One of his brothers who assisted him, was rewarded first with imprisonment, and then with death. By the year 1660, he had attained full possession of the sovereignty, and from that time to the year 1678 there reigned a profound tranquillity throughout the whole empire. In the latter part of his reign he undertook the conquest of the Deccan, to which he was supposed to be incited by the resolution and growing power of Sevagee, the founder of the Mahratta state; and who, in that character, appeared almost as a rival to Aurengzebe himself. Having quelled a rebellion of the Patans, who lived beyond the Indus, he persecuted the Hindoos to such a degree, that the Rajpoot tribes in Agimere commenced a war against him. On this occasion he headed his armies also in person; but having the misfortune to be hemmed in among the mountains, he would certainly have been taken prisoner, had not the enemy thought proper to allow him to escape. They allowed also the empress to make her escape after she had been actually taken. In 1681 he renewed his incursions into that country, took and destroyed Cheture, committing other devastations, and every where destroying the Hindoo temples and objects of worship; but notwithstanding all his efforts, he was at last obliged to abandon his enterprise, and allow them to remain in peace. From the year 1678 to the time of his death in 1707, he is said to have been chiefly employed in the Deccan, the greatest part of which he reduced, and for the last

five years of his life is said to have been actually employed in the field. This long absence from his capital could not but be productive of bad consequences. Rebellions broke out in various parts of the empire; and during this period, the Jats or Jauts first made their appearance in the province of Agra. They were at first only a set of banditti; but have since grown to be a very considerable state, and once were of some consequence in Upper Hindostan. After the 10th year of Aurengzebe's reign, however, we know very little of his transactions, as he would not allow any history of it to be written. At the time of his death the empire extended from the 10th to the 35th degree of latitude, and almost as many degrees in longitude. "His revenue (says Major Rennel) exceeded 35 millions of pounds Sterling, in a country where the products of the earth are about four times as cheap as in England. But so weighty a sceptre could be wielded only by a hand like Aurengzebe's: and we accordingly find, that in a course of 50 years after his death, a succession of weak princes and wicked ministers reduced this astonishing empire to nothing."

Aurengzebe left four sons; Mausum, afterwards emperor, under the title of Bahader Shah; Azem, Kaum Bush, and Acbar, who had been obliged to fly to Persia 30 years before on account of his having engaged in rebellion against his father. A civil war instantly commenced between Azem and Mausum; the event of which was decided in a great battle, where 300,000 combatants were brought into the field on each side. In this battle Azem was defeated and killed; after which Mausuma ascended the throne by the title of Bahader Shah. He was a prince of considerable abilities; but the disorders of the empire were already risen to such an height, that during his short reign of five years, he found it impossible to compose them. He was first engaged in war with his brother Kaum Bush, whom he also defeated and killed; after which his attention was engaged by the Seiks, a new set of religionists, who, during the reign of Shah Jehan, had silently established themselves along the foot of the eastern mountains. They now appeared in arms in the province of Lahora, and ravaged the whole country from thence to the banks of the Jumna. The emperor marched against these adversaries in person, and with great difficulty brought them under subjection. He then took up his residence at Lahore, where he died after a short illness, without having ever visited the imperial cities of Agra or Delhi.

After the death of Bahader Shah the empire was again contested among his four sons. Of these the second, named Azem Ooshaun, took possession of the treasures; but was opposed by his three brothers, who agreed to divide the empire among them. Azem was defeated and killed in a battle, gained chiefly by the valour and conduct of the youngest named *Shah Jehan*; who seemed resolved to abide by the agreement, and as a proof of his sincerity, ordered the treasures to be divided. This was prevented by the intrigues of Zoolfecar khan, an omrah in high trust. A new civil war commenced, in which Jehan Shah was killed. The two remaining brothers tried their fortune in a third battle, which left Jehaunder, the eldest, in possession of the throne. In nine months he was dethroned by Ferakfere,

15
Its quick decline under his successors.

Hindostan. rakfere, or Furroksere, son to the deceased Azem Oshaun; having, during his short reign, displayed almost unparalleled meanness of spirit.

This revolution was accomplished by the assistance of two brothers, Houssein Ali Khan and Abdoolla Khan, who had extensive governments in the eastern provinces. The calamities of the empire were not at all abated during this reign. In 1713 the Seiks appeared again in arms; and in 1716 were grown so formidable, that the emperor himself was obliged to march against them; but we are totally ignorant of the particulars of this campaign. About this time the English East India company obtained the famous *Firman* or grant, by which their goods of export and import were exempted from duties or customs; which was regarded as the company's commercial charter in India, while they stood in need of protection from the princes of that country.

Ferokfere was deposed, and his eyes put out by the two brothers who had raised him to the throne; and in the course of the same year two other emperors, whom they afterwards set up, were deposed and murdered: and thus, in eleven years after the death of Aurengzebe, 11 princes of his line, who had either mounted the throne or been competitors for it, were exterminated, while the government declined with such rapidity, that the empire seemed ready to be dismembered to a greater degree than it had even been before the invasion of Tamerlane. In 1718 the two brothers raised to the throne Mohammed Shah, the grandson of Bahader Shah; but this prince having got sufficient warning by the fate of his predecessors, took care to rid himself of these powerful subjects, though this could not be accomplished without a civil war. New enemies, however, started up. Nizam-al-Muluk, viceroy of the Deccan, had been for some time augmenting his power by every possible method, and was evidently aspiring at independence. Having received some affronts from the two brothers, who for some time had ruled every thing with an absolute sway, he thought proper to retire to his government. In 1722 he was invited to court, and offered the place of vizier or prime minister, but declined accepting it, while the growing and formidable power of the Mahrattas furnished him with a pretence for augmenting his army. At last, having by the year 1738 attained a sufficient degree of strength to accomplish his purposes, and confident of his having a large party at court, he came thither attended by a great body of armed followers. Finding, however, that the interest of the emperor was still too powerful for him, he invited the celebrated Persian usurper Nadir Shah, commonly known by the name of *Khouli Khan*, to invade Hindostan. The invitation was accepted, and Nadir entered the country without opposition. The imperial general Douran being killed in a skirmish, no decisive engagement took place; and the Persian chief, though far advanced into Hindostan, yet looked upon matters to be so uncertain, that he offered to evacuate the country and retire for 50 lacks of rupees, about half a million sterling. The intrigues of the Nizam and his party hindered the emperor from complying with this moderate demand; instead of which he absurdly threw himself upon the usurper's mercy, who then took possession of Delhi, demanding

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a ransom of 30 millions sterling. At an interview with the emperor, he severely reprimanded him for his misconduct; however he told him, that as he was of the race of Timur (Tamerlane), who had not offended the reigning family of Persia, he would not take the empire from him; only as he had put him to the trouble of coming so far to settle his affairs, he insisted that his expences should be paid. The unfortunate emperor made no answer to this speech; but Nadir took care to enforce the latter part of it. Some time after the departure of the emperor, Nadir went to the camp to pay him a visit; where he seized upon 200 cannon, with some treasure and valuable effects, sending them off immediately to Candahar. He then marched back to Delhi, where a mob arose about the price of corn. As Nadir Shah was endeavouring to quell it, a musket was designedly fired at him, by which he narrowly escaped being killed. Exasperated at this, he commanded an indiscriminate massacre to be made, which his cruel soldiers instantly put in execution with the greatest alacrity, and 120,000, or, according to others, 150,000, of the miserable inhabitants were slaughtered without mercy. This was followed by a seizure of all the jewels, plate, and valuable articles which could be found, besides the exaction of the 30 millions, which was done with the utmost rigour; insomuch that many of the inhabitants chose rather to put an end to their own lives than to bear the torments to which they were subjected in case of inability to pay the sum imposed upon them. During these horrid scenes, Nadir caused the marriage of his son to be celebrated with a grand daughter of Aurengzebe; and after having extorted every thing which he demanded, at last took leave of the emperor with every mark of friendship. He put the crown upon his head with his own hands; and after having given him some salutary advice relative to the government of his empire, he set out from Delhi on the 6th of May 1739.

By this invasion the empire sustained prodigious loss. Since the arrival of Nadir in Hindostan, about 200,000 people had been destroyed, and goods and treasure carried off to the amount of 125 millions sterling. Mohammed had ceded to the usurper all the provinces of Hindostan situated to the west of the Indus. His departure left the Nizam in possession of all the remaining power in the empire, which he instantly made use of to establish himself in the sovereignty of the Deccan. The province of Bengal had already become independent under Aliverdy Cawn, in the year 1738; and not long after, it was invaded by a vast army of Mahrattas under sanction of the emperor's name; who being unable to satisfy them in the arrears of tribute he had been obliged to consent to pay, sent them into Bengal to collect for themselves. About the same time, the Rohillas, a tribe from the mountains which lie between India and Persia, erected an independent state on the east of the Ganges, within 80 miles of Delhi.

The total dissolution of the empire seemed now to be fast approaching. In the confusion which took place after the murder of Nadir Shah, Abdallah, one of his generals, seized upon the eastern part of Persia, and the adjoining provinces of India, which had been ceded to Nadir by Mohammed Shah; which he formed into a kingdom still known by the name of *Candahar*.

16
Firman
granted to
the East India
company.

17
Invasion of
Nadir
Shah.

18
Inhabitants
of Delhi
slaughtered.

19
Miserable
state of
Hindostan
after his
departure.

Hindustan. *bar* or *Abdalli*; of which a more particular account is given in the subsequent part of this article.

This year Mohammed Shah died, after a reign of 29 years; which, considering the fate of his immediate predecessors, and the anarchy universally prevalent throughout Hindostan, must be accounted very wonderful. He was succeeded by his son Ahmed Shah; during whose reign, which lasted about six years, the total division of the remainder of the empire took place. Nothing now remained to the family of Tamerlane but a small tract of territory round the city of Delhi, now no longer a capital, and exposed to the repeated depredations of invaders, with consequent massacres and famines. The last army which could with propriety be termed *imperial*, was defeated by the Rohillas in 1749; by which their independence was fully established in the eastern parts of the province of Delhi. The Jauts, or Jats, a Hindoo tribe, established themselves in the province of Agra; the Deccan and Bengal were seized upon by their viceroys, Nizam and Aliverdy. Oude was seized on by Seifdar Jang (father to the late Sujah Dowlah); Allahabad by Mohammed Koeli. Maliva was divided between the Poonah Mahrattas and several native princes and Zemindars: Agimere reverted of course to its ancient lords, the Rajpoot princes; and the Mahrattas, in addition to their proper share of Maliva, possessed the greatest part of Guzerat, Berar, and Orissa; besides their ancient dominions in the Deccan. These people were now become so powerful, that they were alternately courted and employed by the contending parties, like the Swiss in Europe; with this difference, that the Swiss are paid by those who employ them, whereas the Mahrattas always take care to pay themselves. Abdalla having established his empire in the manner above related, entered Lahore and Moulton, or the Panjab, with a view to conquest. "The whole country of Hindostan was in commotion (says Major Rennel) from one entrance to the other, each party fearing the machinations or attacks of the other; so that all regular government was at an end, and villany was practised in every form. Perhaps in the annals of the world it has seldom happened that the bonds of government were so suddenly dissolved, over a portion of country containing at least 60 millions of inhabitants."

20
First interference of the French and English in the affairs of Hindostan.

In 1748 the Nizam died at the age of 104, and was succeeded by his son Nazirjung, to the prejudice of his eldest brother Gazi, vizier to the nominal emperor. The contests that followed on this occasion for the throne of the Deccan, and nabobship of Arcot, first engaged the French and English as auxiliaries on opposite sides. This was followed by a long series of hostilities, which terminated in the total expulsion of the French from Hindostan, the entire humiliation of the Mogul, and his being reduced to the state of a mere tool of the English East India company; together with the subjection of a vast tract of country to the latter. These transactions have occasioned very considerable revolutions, not only in the country properly called *Hindustan*, but in other places of that extensive tract called the *East Indies*: for some account of which see the article INDIA.

21
Different powers among which Hindostan is divided.

The vast country of Hindostan is at present divided among the following powers.

1. Timur Shah, son of Ahmed Shah, or Abdallah,

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possesses an extent of territory to the north-westward before we come to the river Indus. This country, extending all the way betwixt India and Persia, is known by the name of *Duran*, or *Turan*; and was possessed by the Afghans, of whom Abdallah became the sovereign. He was descended from an illustrious family; and having the misfortune of being taken prisoner by Hussein Khan, then chief of Kandahar, along with his brother Zulfecur Khan, they were released by the celebrated Nadir Shah in his passage through that country to Hindostan; but as that conqueror still looked upon them with a jealous eye on account of their great influence with their countrymen, both were sent to Mazandaran in Persia. Here Zulfecur Khan, the brother of Ahmed, died; and, some time after, we find the latter promoted to the command of a body of Afghan cavalry in the Persian army. He continued attached to the interests of Nadir while that conqueror lived; and even attempted, though ineffectually, to revenge his death. Proving unsuccessful in this attempt, he returned to his own country; and, arriving at Kandahar, was saluted chief of the Afghans. In the course of a few months he became master of all the countries which the Mogul had been obliged to cede to Nadir Shah; and, encouraged by the distracted state of the affairs of Hindostan at that time, he crossed the Indus, and plundered the country to the south-east. An indecisive battle fought with the Indian army under the command of the prince royal and vizier, in which the latter was killed, obliged Ahmed to return to his own territories; but he soon undertook another expedition, in which he conquered the province of Lahore. In 1755 he returned; and after staying some time at Lahore, marched to Delhi the capital, having been invited thither, as was supposed, by the Mogul himself, in order to get rid of the tyranny of his vizier. The latter was accordingly deserted in a battle by orders of the emperor, and obliged to surrender himself prisoner: but instead of being put to death, he had the address to ingratiate himself with the conqueror; and the unfortunate Allumghire, the Mogul, was obliged to submit to be ruled by him as before. Ahmed took care to indemnify himself for his trouble, by laying the city of Delhi under a heavy contribution; and having staid for about a month, during which time he concluded a marriage betwixt his son Timur and the emperor's niece, he marched against a tribe of Hindoos named the *Jauts*, and conquered the greatest part of the province of Agra. In this expedition he surprised the city of Matra, famous for being the birth-place of *Krishen*, the Apollo of the Hindoos; and sacrificed to the *Gopia*, the muses of the country. He failed in his attempt to surprise Agra through the resolution of Fazil Cawn the governor; after which he led back his troops to Delhi, where he married the daughter of Mohammed Shah the late emperor, whom Allumghire had in vain solicited for himself.

Having settled his son Timur in the government of Lahore, Ahmed quitted Hindostan, and returned to his dominions, where he found every thing in confusion. Timur, who during his father's absence had been frequently disturbed by the Seiks, a tribe of Hindoos who profess deism, was in 1760 driven out by a vast army of Mahrattas commanded by Roganaut Row

Hindostan. the Paishwa's brother, of whom so much mention has already been made. Next year, however, Ahmed crossed the Indus, and easily recovered his former territories; soon after which he became head of a league formed among some of the Indian princes, in order to oppose the overgrown power of the Mahrattas. In this enterprise he proved successful; and overthrew the Mahrattas in a decisive and very bloody battle, in which more than 50,000 of them were killed on the spot. The pursuit lasted several days, and their vast army was totally dispersed; Ahmed being every where received with acclamations as the deliverer of the faithful. In 1762 he again crossed the Indus, with a view to conquer, or rather to exterminate, the Seiks, whose incursions had become very troublesome, and even dangerous, to his kingdom. Having defeated their army, and forced them to take refuge in the woods and strong holds, he set a price on the heads of all those who professed their tenets; and that with such success, that heaps of them are said to have been piled up in all the principal towns in these parts. At last, hearing that they had assembled in great numbers to celebrate an annual festival, he marched with an army to surprise them. The Seiks, however, were well provided for his reception, and an obstinate battle ensued. During the time of the engagement an eclipse of the sun happened, which, though disregarded by the Seiks, greatly dismayed the superstitious Mohammedans. Ahmed was therefore defeated; and though he frequently returned, was never able thoroughly to subdue that people. At last, having been long afflicted with an ulcer in his face, he died on the 15th of July 1773, at a place named *Kohtoba*, among the mountains of Kandahar, to which he had retired for the sake of coolness, and was succeeded by his son Timur, who still continues to enjoy the sovereignty. The dominions of this prince extend a very considerable way to the northward of the Indus, but he possesses nothing in Hindostan besides the province of Kashmere.

2. The Seiks inhabit a country on the other side of the Indus, and making part of Hindostan properly so called. They derive their origin from a Hindoo named *Nanuck* of the cast of Khatry. His father, named *Baba Caloo*, possessed a small district in the province of Lahore named *Telvandi*, where Nanuck was born in the year 1470. Like other founders of new sects or nations, he is said during his infancy to have given many indications of his future superiority to the rest of mankind. He seems, however, to have received no farther education than what was common to young men of his cast; viz. reading, writing, and arithmetic, and hearing the *sastras* or commentaries on the sacred books. In his early youth he was married to a woman of his own cast, by whom he had two sons. Being a convert to the worship of the Invisible, or deism, he accustomed himself to declaim against the folly of worshipping idols, and the impiety of paying adoration to any but the supreme Being. At the age of 25 he left his family to visit Bengal and the eastern parts of Hindostan; in a second journey he visited the south, and in a third he went as far as Persia and Arabia. On his return from this last journey, he expressed a desire of remaining in his native country; and was furnished, according to his wish, with a piece of ground on the

banks of the river Bavy, about 80 miles north-eastward *Hindostan.* from the city of Lahore. Here he took up his residence for the rest of his days; and choosing to be free from the cares of this world, he dwelt at a distance from his wife and children, who came occasionally to visit him. Having acquired great reputation for his piety, wisdom, and learning, he died at the age of 70; and since his death the place of his abode has obtained the name of *Dibra Daira*, or "the place of worship." His eldest son founded a sect of devotees named *Nanuck Sholy*; but his second employed himself in the usual occupations of mankind. On account of the oppression of the Mohammedan governors, however, he removed from *Telvandi*, the estate of his ancestors, and settled at *Kartarpour*, which his descendants still possess. They are respected by the Seiks on account of their being the posterity of Nanuck, but are not held in any veneration on a religious account.

The doctrines of Nanuck were taught by a favourite disciple of his named *Lbina*, but on whom he bestowed on his death-bed the appellation of *Angud*. By him the doctrines of the sect were collected in a work named *Pothy*, or "the book;" and an history of the life of Nanuck himself was given in another named *Jenum Sakky*. Both these were written in a particular kind of character called *Gour Mouekty*, and said to have been invented by Nanuck himself. Angud named for his successor another disciple called *Amerdofs*; and this method of continuing the succession seems to have been practised as long as the disciples continued to own one supreme chief.

For many years the Seiks lived in peace, and gained the good-will of the Mohammedan governors by their quiet and inoffensive behaviour. By degrees their numbers and their power greatly increased, but in proportion to their good fortune, they seem to have lost their virtue; so that their gourous, or chiefs, who had hitherto borne the character of apostles, at last stood forth as military leaders. The first of these was named *Taigh*, whose successor, named *Govand Sing*, was the tenth and last of the gourous. He engaged in a rebellion against the government; but was at last obliged to submit, and even attended the emperor Bahader Shah in person. At last he was assassinated by a Petan soldier, not without a suspicion of the emperor himself being concerned. As he did not name a successor, his followers chose a chief for themselves named *Banda*, who soon began to make depredations on his neighbours; but being at last taken prisoner, and sent to Delhi with his family and many of his countrymen, they were all put to an ignominious death. By this execution the Seiks were so much exasperated, that they swore eternal vengeance against the Mohammedans, and have ever since manifested a most implacable hatred against them. Taking advantage of the distraction of the Mogul empire by the invasion of Nadir Shah, they conquered several provinces. Wherever they came they threw down the mosques, and obliged every one to quit the country who refused to embrace their tenets. Their war with Ahmed Shah has been already mentioned. Since his death they have recovered all the territories they lost during their contest with him; and now possess the greatest part of Moultan, as well as several districts in the province of Delhi; including in their territories the

Hindoostan. the whole of that rich country named the *Panjab*, on account of five rivers which descend from the northern mountains, and inclose or intersect it, running afterwards into the Indus.

The Seiks, as has already been mentioned, worship one God; but without image, or believing in any mediator. They eat all kinds of meat except beef; sparing the black cattle, in all probability, on account of their utility. Pork is very generally eaten, probably on account of its being forbidden by the Mohammedans. They are commonly dressed in blue, a colour reckoned unlucky by the other Hindoos. Their dress consists of blue trowsers of cotton, a sort of plaid generally chequered with blue and thrown over the right shoulder, with a blue turban. Their government is lodged in an assembly of different chiefs; but who, as individuals, are independent of one another, and have separate territories. They meet annually, or oftener if occasion requires, at a place called *Antberfer*, which is held in a kind of religious veneration; where there is a large tank lined with granite, and surrounded with buildings, and beautifully ornamented. Their force is very considerable, amounting to no fewer than 200,000 cavalry. However, they can seldom be brought to act in concert, unless the whole nation be threatened with some imminent danger. They are a strong hardy race of men, and capable of bearing much fatigue; and so expert in war, that of late almost all the neighbouring countries have been laid under contribution by them, several petty chiefs having consented to pay them a small annual tribute in order to avoid their incursions. When in the field, none but the principal officers have tents, and those extremely small, so that they may be struck and transported with the greater quickness and facility. In cold weather the soldiers wrap themselves during the night in a coarse blanket, which in the time of marching is folded and carried on their horse. Their country is well cultivated, populous, and abounding in cattle, particularly horses, which are reckoned the best in all Hindoostan. This may probably be owing to the studs which were formerly established in different places of the province of Lahore on account of the Mogul himself. Stallions were sent thither from Persia and Arabia, and there was a fixed order to send to the studs in Lahore all such Arabian and Persian horses as by any accident should be rendered unfit for mounting. Notwithstanding their deism, the Seiks are said to have a superstitious veneration for their sword; insomuch, that before one of them will eat with a person of another religion, he draws his sword, and passing it over the victuals, repeats some words of prayer, after which he will freely partake of them. Contrary to the practice of all the other Hindoos, they dislike the smoking of tobacco; but many of them smoke and chew bang, which sometimes produces a degree of intoxication.

3. The provinces of Delhi have, in the course of a few years, frequently changed their masters, but have scarce at any period during that time been under the authority of the sovereign. Their last governor was named *Nadjiff Khan*, under the title of generalissimo of the emperor. He was involved in the ruin of Mohammed Kouly Khan, cousin to Soujah al Dowlah; after which he went to Cassim Aly Khan nabob of

Bengal; after whose expulsion he retired with a party of horse to Bundelcund into the service of Rajah Coman Sing. He next joined the English; and at last became the general of Shah Allum. With a body of English seapoys who had been put under his command, and some other troops whom he had taken into his service, he subdued the countries near Delhi, conquered almost all the territories of the Jauts, reducing the cities of Agra, Dieg, and other principal towns. These conquests were indeed effected in the name of the Mogul, but he derived little benefit from them; Nadjiff being the real master, and keeping possession of them till his death, which happened in 1782: and since that time the countries we speak of have been involved in a scene of continual anarchy and bloodshed.

4. Next to the provinces of Delhi are the dominions of the independent rajahs, whose dominions lie contiguous to one another. The principal are those of Joinagar or Jaypour, Joadpour or Marwar, Oudiapour or Chitore, and Jesalmire. These countries are under a kind of feudal constitution, and every village is obliged to furnish a certain number of horsemen at the shortest warning. The people are brave, hardy, and very much attached to their respective chiefs; and their army is very formidable, amounting when collected to about 150,000 horsemen.

5. The Jauts were a tribe who followed the occupation of agriculture in the northern parts of Hindoostan. About 40 years ago they were formed into a nation by Tackou Souragemul, proprietor of an inconsiderable district. After making himself master of all the countries dependent on Agra, of the town itself, and many other important places, he was killed in battle with Nadjib ul Dowlah, the Rohilla chief, in 1763. Since that time the power of this people has been so much reduced by domestic contentions and foreign wars, that the present rajah possesses only a strong town named *Bartpoor*, with a small district around it. The Jauts, however, it is said, are now manifesting a martial disposition, and thus may possibly be soon in a condition to recover their former extent of territory.

6. The most considerable of all the Hindoo powers are the Mahrattas, with whom the Europeans first became acquainted in their original territories of Malabar. The first of their chiefs was named *Seeva*, or *Seeva-jee*; who is said to have been descended from the ancient Hindoo emperors, and whose father was lord of a small district, for which he paid tribute to the Mohammedan king of Viziapour. For some reason, unknown to us, he was at last arrested by order of that king, and died in confinement; but his son Seeva-jee took up arms in defence of his country, and made himself master of several important places, with a considerable tract of territory, which were afterwards ceded to him by the queen-regent, the king of Viziapour having died soon after the commencement of the war.

Seeva-jee having thus established himself, soon became formidable to his neighbours. Many of the Hindoo princes put themselves under his protection, and he at length ventured to make war upon the emperor Aurengzebe. In this he proved unsuccessful, was taken prisoner, and carried to Delhi. Having found means, however, to make his escape, he quickly recommenced hostilities;

Hindustan. and the emperor, who was now far advanced in life, thought proper to come to an accommodation with so troublesome an enemy. On this occasion the Mahrattas pretend that their prince obtained a grant of 10 per cent. on all the revenues of the Deccan; which has often served as a pretence to invade that country, and levy contributions on the southern nabobs. Since that time the Mahrattas have become so powerful, that all the princes of Hindostan are alarmed when they put themselves in motion. Their territories extend about 1000 miles in length and 700 in breadth; and they are governed by a number of separate chiefs, all of whom acknowledge the Ram Rajah as their sovereign, and all except Moodajee Booslah acknowledge the Paishwa as his vicegerent. The capital of the sovereign was Sattarah; but the Paishwa generally resides at Poonah, one degree to the southward, and about 100 miles distant from Bombay. The country extends along the coast nearly from Goa to Cambay. On the south it borders on the territories of Tippoo Saib; on the east it has those of the Nizam and the rajah of Berar; and on the north those of the Mahratta chiefs Sindia and Holkar.

7. The rajah of Berar, besides that country, has the greatest part of Orixá. His dominions extend about 600 miles in length from east to west, and 250 from north to south. The eastern part of the Orixá extends along the sea-coast for about 150 English miles, and divides the British possessions in Bengal from those commonly called the *Northern Circars*. On the west his territories border upon those of the Paishwa; on the south, upon those of the Nizam, Mahomet Hyat a Patan chief, Nizam Shah, and Ajid Sing. The rajah himself resides at Nagarpour, about midway betwixt Calcutta and Bombay.

8. Madajee Sindia has the greatest part of the government of Malva, together with the province of Cardeish. The remainder is under the government of Holkar; who, as well as Sindia, pretends to be descended from the ancient kings of Malva. The principal residence of Sindia is at Ugein near the city of Mundu, which was once the capital of these kings. Holkar resides at Indoor, a town little more than 30 miles to the westward of the former. The dominions of these, and some other princes of smaller note, extend as far as the river Jumma.

The two last mentioned princes, though properly Mahrattas, own no allegiance to the Ram Rajah or great chief to whom the main body are nominally subject. Some time ago the Mahrattas aimed at the conquest of all Hindostan, and even avowed a design of expelling all the Mohammedan princes; but their power was effectually checked by the British, and their dissensions among themselves put an end to all schemes of that kind. Still, however, they were ready to watch every opportunity of invading the territories of their neighbours; and their resources being so considerable, they were deservedly accounted a very formidable enemy. The strength of their army consists chiefly in cavalry; and both men and horse are capable of enduring a great deal of fatigue. Bodies of 50 or 60,000 cavalry have been known to travel 50 miles a day for many days together; which, considering the excessive heat of the country, must certainly appear very surprising. The country abounds very much in horses, and there is one

kind named the *Bheemerteddy* horse, which is greatly esteemed, and sold at a very high price. The common horse of these parts is lean and looks ill, but is abundantly fit for the purposes of war. The only weapon used by the horsemen is a sabre; in the use of which they are so dexterous, that it is supposed the best European hussar would not be more than a match for a Mahratta horseman. There are considerable studs in every province belonging to the Paishwa and different chiefs; and there are likewise many *jundis* or great herds of horses belonging to particular persons, who turn those they have no occasion for loose in the open plains.

The Mahratta horsemen are dressed in a quilted jacket of cotton, which is supposed to be one of the best defences against a sword that can easily be contrived of equal lightness; but the heat of the climate frequently renders it necessary to be taken off. The rest of their dress consists of a pair of trowsers, and a kind of broad turban which descends low enough to cover the neck and shoulders. In cases of emergency the horsemen carry provision both for themselves and their horses in a small bag tied upon the saddles: the food of the rider consists only of a few small cakes with a little flour or rice, and some salt and spices; the horse is fed with a kind of peas named *gram*, or with balls made of the flour of these peas mixed with butter, prepared after a certain manner, and named *ghee*, together with some garlic and hot spices. These balls are given by way of cordial, and have the property of invigorating the animal after extraordinary fatigue. Sometimes it is said that they add a small quantity of *bang*; a kind of drug which possesses an exhilarating virtue, and produces some degree of intoxication. The Mahratta cavalry seldom make any use of tents: even the officers frequently have no other accommodation than a small carpet to sit and lie on; and a single camel is able to carry the whole baggage of the general. The officers, however, are generally well mounted, and have spare horses in the field.

All the subjects and vassals of the Mahratta princes are generally ready to follow them into the field; and in any case in which the honour or interest of the nation appears to be concerned, they generally unite in the common cause. Before they invade any country, the general is at great pains to inform himself of the nature and situation of it; and they have now made incursions into so many different parts of Hindostan, that there are but few countries there with which they are not very well acquainted. Their great sobriety, and the fatigue they are capable of undergoing, render them very dangerous enemies. In all their expeditions the soldier first provides for his horse, and then goes to his own meal; after which he lies down contented by the side of the animal, and is ready to mount him at the first sound of the *nagar* or great drum. They have their horses under the most excellent management; and by perpetually caressing and conversing with them, the animals acquire a degree of docility and sagacity unknown in other countries. When on an expedition, the horses are accustomed to eat grass pulled up by the roots, which is said to be very nutritive, and to be destitute of that purgative quality which belongs to the blade alone. When they make an invasion, the devastation is terrible; the cattle

Hindustan. are driven off, the harvest destroyed, the villages burned, and every human creature destroyed who comes in their way. Notwithstanding this barbarity in time of war, however, they are very humane in time of peace, living in great harmony among themselves, and being always ready to entertain and assist strangers. Many of the cruelties they commit may be justly reckoned the effects of retaliation for other cruelties exercised upon them by their adversaries. Thus in 1771, after having given Hyder Ally a great defeat, they cut off the ears and noses of a whole regiment of prisoners, and in that condition sent them back to their commander in return for his having done the same to a few prisoners he had taken some time before.

The revenue of the Paishwa is very considerable; being not less than ten millions sterling; but after deducting the expence of collection, and the expence of troops kept in readiness for the service of the state, it is supposed that he cannot receive more than four millions. From this again we must deduct the expences of the troops immediately belonging to the Paishwa himself, and which may amount to about three millions sterling; so that there remains a surplus only of one million after paying all the necessary expences of government. This nevertheless has been managed with such economy, that though long and expensive wars were carried on after the death of Nairn Row, the state was not only clear of debt, but there was a surplus of two millions in the treasury, which Rogobah dissipated.

9. The *Deccan*, as left in 1748 by Nizam al Mulek, was by far the most important and extensive soubadary or viceroyship in the empire. It then surpassed in size the largest kingdom in Europe; but since that time many provinces have been conquered by the Mahrattas, and the northern Circars by the British. The possessions of the Nizam are also diminished by the cession of the Carnatic to the nabob of Arcot; great part of the territories of Tippoo Saib; and many other provinces of less note. Still, however, the Nizam possesses very considerable territories; but his finances are in such a wretched condition, and his provinces so ill governed, that he is accounted a prince of no consequence, though otherwise he might be reckoned one of the most considerable powers of *Hindustan*.

10. The dominions of Tippoo Saib, the son and successor of Hyder Ally, are bounded on the north by the territories of the Paishwa; on the south by Travancore, the territory of an independent Hindoo prince; on the west by the sea; and on the east by a great ridge of mountains, which separate them from the territories of the nabob of Arcot. The country lying to the eastward of these mountains is called the Carnatic *Payen Ghat*, and to the westward the Carnatic *Bhalla Ghat*. The latter belongs to Tippoo Saib; and the two together make up the country formerly named the *Carnatic*, though the name is now restricted to the *Payen Ghat*. The situation of the *Bhalla Ghat* is considerably more elevated than the other; by which means the temperature of the air is much cooler. On the coast of Coromandel there is a pile of ruins called by the natives *Malavipatam*, and by the British the *seven pagodas*. Concerning this there is a tradition, that it once stood at a considerable distance from the sea; though most of the ruins are now covered with water:

and there is likewise a tradition, that the mountains we speak of once formed the boundary of the ocean. The revenue and strength of Hyder Ally are said to have been greatly exaggerated; the former amounting to no more than four millions annually, though by his economy and good management he made it answer every purpose both in time of war and peace. He was at great pains to introduce the European discipline among his troops; but notwithstanding all his endeavours, he was far from being able to make them cope with the British. The advantages he gained were owing to his vast superiority in cavalry, and the celerity of his marches; which would have been counteracted had his adversaries been possessed of a good body of cavalry; and it is probable that the event of the war would have been decided in a single campaign. His son Tippoo Saib is said to be a man of less abilities than his father, though more violent in his disposition. Against this prince hostilities have lately been commenced by the British in conjunction with the Mahrattas, between whom an alliance had been formed. But this event has not as yet been attended with any consequences that merit a detail.

With regard to the present government of *Hindustan*, our limits will not allow us to enter particularly upon it, nor indeed is it perhaps of any importance, as the country is divided into so many different kingdoms; the sovereigns of which, however they may differ in other respects, seem all to agree in despotism and oppression of their subjects. As a very considerable part is now under the dominion of Britain, it may be necessary to take some notice of the behaviour of our countrymen in that part of the world, especially as an idea of their excessive despotism and oppression of the natives has of late prevailed so much, that the national character has suffered considerably by it. This has arisen partly from the great pains taken to propagate it, and partly from the ignorance of those among whom the report was circulated; and the exaggerated accounts and contentions of the members of the government themselves, have contributed no less to confirm and heighten the prejudices of the public.

The British territories in the East Indies were originally under the jurisdiction of a governor and 13 members; but this number has fluctuated occasionally from 14 to 4, at which it was fixed by act of parliament. In this council all matters, whether relating to peace or war, government or commerce, were debated, the governor having no other superiority than that of giving the casting vote. In other respects the whole executive power was lodged in his hands, and all the correspondence with the native princes of India was carried on by his means, the dispatches to them being signed by him singly; and all the princes and great men who visited the presidency were first received by him, and then introduced to the counsellors. He was military governor of Fort William, and commander in chief of the presidency; whence, as by his office he was invested with a considerable degree of power, he became an object of some envy and jealousy to the members of the council and other considerable people in that part of the world. In consequence of this, the government was divided into two parties, one siding with the governor, and the other opposing him; in consequence of which, the debates were frequently carried

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Hindostan. ried on with such heat and violence, that the records of the company are frequently stuffed with nothing but accounts of the contentions of these jarring parties. This indeed may be looked upon as one of the principal causes by which the reputation of the British government in the eastern parts of the world has suffered; for as there were very frequently opinions diametrically opposite to one another recorded upon the same subject, the contending parties in the British parliament had always sufficient authority for what they said, let them take which side they would; and thus the characters of all concerned in the East India government were, by one person or other, set forth in the most opprobrious light.

Another source of reproach to the British government in India was, that the court of directors in England became infected with the same spirit of party and contention which pervaded all other departments of the state. Lord Clive and Mr Sullivan were the two great leaders in these party-disputes; and as the interest of the one or the other prevailed, different persons were appointed to the administration, and different measures adopted. The event of all this was, that whenever a new administration was formed, the first object was to condemn the measures of those who had gone before them. Thus, in the year 1764, when Lord Clive was made governor of Bengal, the new directors represented the affairs of the company as in the worst situation imaginable, from which they could only be extricated by the abilities of Clive. On the arrival of the latter in the east, he took care to write home reports to the same purpose, and to condemn in the most violent manner every thing that had been done; the whole body of the company's servants were censured indiscriminately without being allowed any means of defence, as they were in truth ignorant of the charges brought against them. When the affairs of the company were brought under a parliamentary review in the year 1774, the government was brought under a new regulation. It now consisted of a governor-general and four counsellors; three of whom were sent from England; two being military gentlemen of high rank, and the third a gentleman employed in the war-office. On their arrival they proceeded in the same manner that Lord Clive had done before them: they pronounced in the most decisive manner, that the company's affairs were in a ruinous state; and that every species of corruption had been practised by the former government. This general accusation, unsupported by any kind of evidence, was the constant theme of the dispatches sent by them to England; and thus has the reputation of the British government suffered exceedingly through the unwarrantable liberties which its own servants have been allowed to take with one another. It must also be considered, that from the remote situation of India, and the unavoidable ignorance of its affairs on that account, it was easy for any person, whose malicious purposes it might suit, to prejudice the public against the servants of the company to as great a degree as he pleased. Hence some persons, soured by disappointment, or envious of the supposed emoluments of others, represented matters in such an unfair light to their correspondents in England, that the most unjust and shameful charges were frequently brought against innocent persons, which they

Hindostan. could neither prevent nor defend themselves against. The dreadful famine which took place in Bengal in the year 1769, offered to these malevolent persons a most fruitful source of calumny; and many individuals were accused of having brought on this dreadful calamity, which arose entirely from a natural cause, *viz.* the failure of the rains, and which no human power could have prevented or removed.

Opinions of this kind have not only been circulated through the island of Britain in the most open manner, but have even appeared in some very respectable publications. Thus in Mr Smith's Treatise on the Wealth of Nations, when speaking of the oppression arising from monopolies, and comparing their effects in different states: "The English company (says he) have not yet had time to establish in Bengal so perfectly destructive a system. The plan of the government, however, has had exactly the same tendency. It has not been uncommon, I am well assured, for the chief, that is, the first clerk of a factory, to order a peasant to plow up a rich field of poppies, and sow it with rice or some other grain. The pretence was to prevent a scarcity of provisions; but the real reason, to give the chief an opportunity of selling at a better price a large quantity of opium he had on hand. Upon other occasions the order has been reversed, and a rich field of rice or other grain has been plowed up to make room for a plantation of poppies, when the chief saw that extraordinary profit was to be made by opium." To this, however, the following answer has appeared in a late publication, intitled A short Review of the British government in India. "The poppy is a plant which requires a peculiar soil, and particular care in the culture of it. The medium price of the land on which it is cultivated is about 11 or 12 rupees a *begah*, or one third of an English acre. It is sowed at the beginning of October, when the season of the periodical rain expires. The plant begins to be fit for incision, in order to extract its juice, of which opium is made, about the end of December, and continues so till March. It requires a dry soil, and can be brought to maturity only in the dry season, when the periodical rains have ceased. Paddy or rice lands let on a medium at three rupees a *begah*. Rice is sowed about the end of May, just before the periodical rains commence. One crop is raised about the end of September; and another, which is the last, and by far the greatest, about the end of December. It requires a soil saturated with water, and lies soaked in it for a considerable time. On this account it is sowed just before the periodical rains commence; and nine-tenths of the quantity of rice produced in the company's provinces grow in the kingdom of Bengal, which is so low and flat, that the grounds are either overflowed by the rivers Ganges and Burrampooter, with their tributary streams, or soaked with the rain which falls and stagnates upon them. It is therefore evident, that the soil and the season, which alone can fructify the paddy or rice, would rot and destroy the poppy; and it is therefore as evident, that it is utterly impossible, from the nature of the two plants, that the one can be plowed up to sow the other."

With regard to the administration of the British affairs in the East Indies, it must also be remarked, that the company now act in a very different capacity from what

Hindustan. what they originally did. From a society of merchants, they are now become sovereigns of the country to which they trade. The latter character was quite foreign to them; and they have accordingly looked upon that of merchants to be the principal one, while that of sovereigns was to be only a kind of appendage to it. Thus, instead of acting for the interest of the country they govern, and which as sovereigns they naturally ought to do, they have acted in many cases directly opposite to it, which, as merchants, is also their natural interest. Hence also, when the administration in India did any thing in obedience to the orders of the directors, which orders being dictated by merchants, were prejudicial to the interests of the country, that injury has been sometimes unjustly attributed to their servants, who acted merely in obedience to the orders they received. On the other hand, when the India administration acted with the generous spirit of sovereigns, they were sometimes blamed by the directors, who judged as merchants, and sometimes by the ministry, who were always ready upon the smallest pretence to interfere in their affairs.

At the time when the British administration first commenced in Hindostan, the Hindoo governors were universally named *Rajabs*; but though many of the Hindoo families yet bear that title, it does not appear to resemble, in any manner of way, our titles of nobility, or to be a dignity which can be conferred by any of the princes, or even by the Mogul himself. Hence, in that part of the world there are no ancient nobility, the titles being conferred merely by usurpers, who have neither right nor title derived from any thing but violence.

In this country we find the title of *Zemindar* very common; a word compounded of two others, signifying, in the Persian language, a *landholder*. It appears to have been introduced by the Mohammedans, and to have been a kind of temporary office, prescribing the performance of certain duties, and requiring security for the personal appearance of the *Zemindar*. He is obliged to attend the exchequer of the king's chief collector, at the commencement of every new year, to settle his revenues; and he is not allowed to enter upon the duties of his office for the year without a special order for that purpose. On the death of a *Zemindar*, the candidate for succession must petition the sovereign, engaging himself to perform all the stipulated duties, and to pay the customary fees; nor can he enter upon his office without a special investiture. As the *Zemindars* were by virtue of their office invested with considerable power, they soon became not only very despotic in their own dominions, but by degrees began to encroach on the power of the sovereign himself. After the irruption of Nadar Shah every thing was thrown into confusion; the viceroys threw off obedience to the emperor, the nabobs threw off all obedience to them, and usurped their power; at which time it is probable that the *Zemindars* likewise assumed powers to which they were by no means intitled from their office. Notwithstanding this, however, they were sometimes treated by the Mohammedan governors as mere revenue-officers, and used very harshly. At some times there were a set of people bound for the *Zemindars* under the title of *Woodedars*; and these had either a joint power with the former, or

were superior to them in the collection of the revenues; and sometimes they were superseded by officers appointed immediately by government itself, under the various names of *Aumils*, *Tahsilders*, or *Sezawruls*. —The *Zemindaries* are not limited in extent or value; there being some in Bengal which yield a revenue as high as 350,000*l.* sterling, while others scarcely amount to 350*l.*; but all the great *Zemindars*, and many of those in middling circumstances, having procured for themselves the title of *Rajah*, affect much pomp and state in their different districts, and keep their inferiors in as great subjection as the Mohammedan governors keep them. Some of them also have their power augmented by being of the bramin cast; and by the reverence supposed to be due to religion on that account, joined with the power conferred upon them by the sovereign, they are in general rendered exceedingly despotic, with an almost unlimited authority to plunder their tenants; in which they were indulged by the Nabobs from the motive of plundering them again. From the consultations of the select committee in 1769, we are informed that the *Zemindars* have a power of levying fines at pleasure; that they raise large sums from duties collected in the market; and that they frequently oblige the ryots or husbandmen to work for nothing. In short, the same claims made by the European barons on their vassals in the times of the feudal system, are now made by the *Zemindars* on the common people of Hindostan. If one of them is to be married, if he has a child born, if honours are to be conferred upon him; nay, if he is even to be fined for his own misconduct, the poor ryot must always contribute his share. Mr Scrofton, in his history of Hindostan, sets forth the situation of the inhabitants in the following words:—"Unhappily for the Gentoos, themselves are made the ministers of oppression over each other; the Moor men, haughty, lazy, and voluptuous, make them, of whom they have no jealousy, the ministers of their oppression, which further answers the end of dividing them, and prevents their uniting to sling off the yoke; and by the strange intoxication of power, they are found still more rapacious and cruel than their foreign masters: and what is more extraordinary, the bramins still exceed the rest in every abuse of power, and seem to think, if they bribe God by bestowing a part of their plunder on cows and faquirs, their iniquities will be pardoned."

From this account of the situation of the people of Hindostan under their native rulers, it is by no means probable that they could make a worse exchange by falling under the jurisdiction either of the Mohammedans or Europeans. A notion indeed hath been industriously propagated, that the British government has behaved with the greatest cruelty in collecting the revenues, and that they have even invented tortures to make the rich people discover their treasures; but on examining the matter impartially, the reverse of this is found to be true. At the time that the British government interfered in the affairs of Hindostan, the provinces were found to be in a ruinous state, in consequence of the wars which had taken place in the country. Even in the most settled state, and when the administration was most regular, the government was altogether despotic, and the mode of collecting its revenues extremely arbitrary.

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bitrary; the punishments inflicted very cruel; and the whole system of government such as would be reckoned quite shocking in Europe. It is only within these few years that the British could effectually interpose in behalf of the natives; and in that short time it has produced a very considerable reformation. It is certain, that the British government has discouraged oppressive measures as much as possible; abolished the cruel modes of punishment used by the Mohammedans; and by instituting a more regular plan of justice, has procured ease and security to the natives, and preserved them in a state of tranquillity altogether unknown to them before its commencement. Many instances of the greatest cruelty exercised upon the Zemindars and other collectors are to be met with in the history of Bengal, written by a native historian, and translated by Gladwin: yet the person who exercised these cruelties was dignified with the titles of the *faithful servant of the Empire*, and the *Glory of the State*; which shows that the people were absolutely familiarised with cruelty, and did not know what it was to be under a lenient government. Since the British had the dominion, matters have been totally reversed, and the Hindoos, instead of being treated with cruelty, persecuted on account of their religion, and compelled to renounce it, have been used with at least comparative lenity, and great indulgence has been shown to them even in their most absurd practices and superstitions. When the British government first accepted of the office of Dewanny, or collection of the revenues, it was not in their power to interpose with any kind of efficacy for the relief of the inhabitants; because it was at first thought proper to allow the taxes to be collected by natives, who would undoubtedly follow their ancient modes of collection. Even at that time, however, the mildness of the British governors had some effect upon the Asiatics; so that the people in general were treated with more lenity than formerly: and in the year 1772, when the council of Bengal openly assumed the office of Dewan themselves, an immediate stop was put to all those arbitrary and oppressive methods which had been formerly in use. Formerly some Zemindars had been flogged even to death, by an instrument called a *Korah*: but from the moment that the British council took the collection into their own hands, not only this instrument was laid aside, but all kind of corporal punishment; by which means the severity of the Mohammedan government has been entirely abolished, and no other punishments inflicted in cases of insolvency than such as are in use in our own country. Still, however, in such extensive dominions, where a great share of power must be one way or other committed to the natives, it is impossible but some arbitrary acts must be committed, as the natives are always prone to acts of despotism whenever they can commit them with impunity; but examples of this kind cannot with any degree of candour be brought as a general charge against the British government in India.—Mr Scrofton gives the following account of the wretched state of the provinces now under the British jurisdiction at the time they were ceded to them by the Mogul. “When the governors of the provinces found the weakness of the Mogul, and each set up as sovereign in his own province, although they could not break through these immutable laws, they invented new taxes under new

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names, which doubled or trebled the value of the original ones, and which the landholder was obliged to levy upon his tenants. The old stock of wealth for some time supported this; but when that failed, and the tenants were still pressed for more, they borrowed money of usurers at an exorbitant interest; and the government still continuing these demands, the lords of the lands were obliged to do the same: but as all this while the value of lands did not increase, the consequence was, that at last, unable to pay the interest of the mortgages, the rents were seized by rapacious usurers. The government finding the revenues fall shorter every year, at last sent collectors and farmers of the revenues into the provinces. Thus the lord of the land was divested of power over his country, and the tenants exposed to merciless plunderers; till the farmer and manufacturer, finding that the more they laboured the more they paid, the manufacturer would work no more, and the farmer would cultivate no more than was just sufficient for the subsistence of his family. Thus this once flourishing and plentiful country has, in the course of a few years, been reduced to such misery, that many thousands are continually perishing through want. The crown lands are still worse off, let out to the highest bidder; and the Jagheer lands alone remain unplundered. Hence that equal distribution of wealth that makes the happiness of a people, and spreads a face of cheerfulness and plenty through all ranks, has now ceased; and the riches of the country are settled partly in the hands of a few usurers and greedy courtiers, and the rest is carried out of the country by the foreign troops taken into pay to maintain the governors in their usurpations. This unhappy decay the India company has already experienced in the decay of their trade, and the rise and price of their manufactures; and will, I fear, experience more and more annually.”

With regard to the depositions of the Nabobs by the British, which has been used as a great argument against the general spirit of British government in those parts, it must be remembered, in the first place, that these Nabobs were mere usurpers, who had not the least title to their dominions, and consequently could not, in point of right, complain more reasonably of being deprived of their dominions, than the persons from whom they had taken them might do of their injustice in driving them out. Their behaviour in government also was such, that it was impossible it could have subsisted for any length of time without the absolute ruin of the countries they possessed. Thus, in the case of Jaffier Aly Cawn, Mr Vansittart declared the country to be in so confused and impoverished a state, that in all human appearance another month could not have been run through before he would have been cut off by his own Seapoys for want of pay, and the city become a scene of plunder and disorder. On this account he was degraded, though without any of those circumstances of cruelty which generally characterise the revolutions in this part of the world. The administration was transferred to his son-in-law Meer Cossim; who being an enemy to the British government altogether, a war followed, terminating in his expulsion. This was followed by the invasion of Sujah Dowlah, and by scenes of horrid barbarity and devastation; when in 1765 Lord Clive took

Hindostan. took upon him the office of Dewan, or minister who superintends the lands and collections of the revenue. An account of his proceedings has already been given; but whatever applause he might gain, and in some respects deservedly at the time, it is now said, with some probability, that he raised the expectations of the people of England by far too high. The seeds of the succeeding evils were already sown. Many sources of wealth were dried up. Raw-silk, cloths, and other manufactures, had formerly been exported to Guzerat, Lahore, and even Ispahan. This had ceased on the invasion of Nadar Shah; and the influx of wealth from the European nations had ceased before the British government in Bengal had an existence. It was computed that Cossim Aly Cawn robbed the country of near five millions sterling in jewels and specie. China, Madras, and Bombay, were supplied from Bengal to the amount of more than two millions; and several other circumstances besides these contributed to diminish the riches and opulence of the country. In the mean time the internal administration of the country had been extremely defective. The Zemindars being under very little restraint, acted in a very arbitrary manner within their own districts; and the tenants had no redress against the impositions and exactions which were laid upon them. Meir Cossim appointed *Aumils* to the collection of the revenues rather than Zemindars. The *Aumils* derive their authority directly from the person who has the command of the country for the present time, and consequently are more easily called to an account than the Zemindars. At last, however, these *Aumils*, having obtained too great an influence in the country, Lord Clive thought proper to change the plan of collection. Three natives were now appointed, in the nabob's name, to superintend this department; and one English gentleman, through whom the business was transacted, had his residence at the nabob's court, and communicated the intelligence to Calcutta. The principal acting minister in this plan, however, thought proper to change the mode of collection once more, and to re-appoint the *Aumils*; in consequence of which the revenue became greatly diminished, and they were besides complained of as greatly oppressing the people. To remedy these evils, it was first proposed by Mr Verelst to send some of the company's servants into the internal parts of the country with the title of supervisors: but the defects of administration were now beyond their power to remedy; the revenue was not only greatly diminished, but the expence of government exceedingly augmented; and in the year 1771 the company were alarmed by accounts that bills had been drawn upon them to the amount of 1,200,000*l.* At this time Mr Hastings was appointed to be governor of Bengal; and the confused state in which matters were at the commencement of his administration will easily appear from the following part of a letter from the government of Bengal, dated in the month of November 1772.—“Every zemindary was left to its own particular customs. The articles which composed the revenue, the form of keeping the accounts, the computation of time, even the technical terms, which ever form the greatest obscurity in every science, differed as much as the soil and productions of the province. The nabobs exacted what they could from the zemindars and great farmers of the re-

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venue, whom they left at liberty to plunder all below, reserving to themselves the liberty of plundering them in their turn, when they were supposed to have enriched themselves with the spoils of the country. The mutsaddies, who stood between the nabob and zemindars, and between them and the people, had each their shares of the public wealth. These profits were considered as illegal embezzlements, and therefore were taken with every precaution which could ensure secrecy; and being, consequently, fixed by no rule, depended on the temper, abilities, or power, of each individual for the amount. It therefore became a duty to every man to take the most effectual measures to conceal the value of his property, and evade every inquiry into his conduct; while the Zemindars and other landholders, who had the advantage of long possession, availed themselves of it by complex divisions of the lands, and intricate modes of collection, to perplex the officers of government, and confine the knowledge of the rents to themselves. The internal management of each district varied no less than that of the whole province. The lands subject to the same collection, and intermixed with each other, were some held by farm, some superintended by shickdors or agents on the part of the collector, and were left to the Zemindars themselves, under various degrees of control.” For some political reasons the company, though they had acquired the Dewanny, had not yet chosen to assume the executive part of the office themselves, but committed it to the management of natives, as has already been mentioned, and their plans had been found extremely defective. By the time that Mr Hastings had been invested with the government, the court of directors had resolved to change their plan, and openly assume the office of the Dewanny; and the rules established by that gentleman for the collection of the revenues, his mode of administering justice, and his police for the government of the country, are still observed with very little variation.

The plan for collecting the revenues consisted, in the first place, in rendering the accounts as simple and intelligible as possible; in the next, in establishing fixed rules for the collection; and in the third, making the mode of them uniform in all parts of the provinces; and in the fourth, providing for the equal administration of justice. The power of the Zemindars was now circumscribed, and their extortions thoroughly put a stop to; many vexatious taxes and tolls were abolished, and a new mode of collecting the customs was established, to the great relief of the merchants: and so well were all the parts of this plan found to be adapted to the purposes they were designed to answer, that it has hitherto been made the model of all subsequent regulations.

One great objection to the India government is, that the English law, which undoubtedly is better calculated than any other for securing the liberties of the people, has not yet been adopted in India; whence it is thought that the company's servants have still showed a disposition to oppress, rather than to relieve, the oppressed inhabitants of Hindostan. But in answer to this it is said, that the difference betwixt the two countries is so great, that there can be no comparison betwixt the one and the other, nor can the constitution of England be in any degree adapted to that of the other.

Hindoostan. other. The religion, laws, manners, and customs, of both Hindoos and Mohammedans, are so essentially different from those of this country, that it is impossible to assimilate them, should ever any thing of the kind be attempted. The only true method therefore of judging whether the present state of Hindoostan is preferable to what it formerly was, is to compare it with what it was under the best Mogul emperors; and in this comparison it must certainly appear that the preference is greatly in favour of the British administration. In Major Rennel's work we are informed, that during the reign of Ackbar, whom he styles "the glory of the house of Timur," the country had never enjoyed so much tranquillity; "but this tranquillity would hardly be deemed such in any other quarter of the world, and must therefore be understood to mean a state short of actual rebellion, or at least commotion." The same author, speaking of the state of the British empire there, uses the following words: "The Bengal provinces, which have been in our actual possession near 23 years, have, during that whole period, enjoyed a greater share of tranquillity than any other part of India, or indeed than those provinces had ever experienced since the days of Aurengzebe." To this we may add, that the provinces have not only experienced a perfect freedom from external invasions, but likewise enjoy a degree of internal tranquillity altogether unknown before, by the subjection and civilization of a set of banditti who inhabited the hills of Rajemahl, and infested the travellers who passed that way; a wandering tribe of religious mendicants, who were wont to commit the greatest enormities.

Another advantage the inhabitants of this country reap from the British government, is the security from violence and oppression either by their Mohammedan superiors or by one another. Under the article **HINDOO** we have already mentioned the particular circumstance that these people are liable to the punishment of losing their cast from a variety of causes, and that this is looked upon by them to be the most grievous calamity they can suffer. The Mohammedan governors frequently took advantage of their superstition in this respect to oppress them; and this circumstance alone frequently produced the most horrid confusion. In the instructions given to the supervisors, Mr Verelst informs them, that "it is difficult to determine whether the original customs, or the degenerate manners of the Mussulmen, have most contributed to confound the principles of right and wrong in these provinces. Certain it is (adds he), that almost every decision of theirs is a corrupt bargain with the highest bidder. Compensation was frequently accepted of even for capital crimes, and fines became at last an intolerable grievance; nay, so venal were the judges at that time, that it became at last a settled rule to allow each of them a fourth part of any property in dispute as a compensation for his trouble.—It is impossible to suppose that such monstrous abuses continue under the British government: on the contrary, we must readily believe, what the governors themselves assert, that immediately after the provinces fell under British jurisdiction, both Hindoos and Mohammedans have been left to the free exercise of their religion, laws, and customs. The Hindoos themselves acknowledge this, and are as well pleased with the mildness of the British

Hindoostan. government, as they are displeased with the superstition and cruelty of the Mohammedans. Under the British government we cannot suppose but that commerce, to which the inhabitants of this country are so much addicted, will be much more encouraged than by the avaricious and barbarous Mohammedans. The latter had imposed so many restraints upon trade of all kinds, by the multitude of taxes collected at the landing-places, watch-houses, markets, &c. that it was almost impossible to carry it on with any advantage. Among other salutary regulations, however, enacted by the British government in 1772, many of those taxes upon commerce were abolished, and a plan laid for effectually liberating the inhabitants from those shackles by which their commerce had been so long fettered.—Regard has also been paid to the instruction of the people in useful knowledge; and the seminary established at Calcutta by Sir William Jones, certainly does much honour to the founder. Some regard had indeed been paid to this by the Mohammedan emperors; but at the time that the British government commenced, these had been entirely neglected, their endowments resumed by government, and even the buildings fallen into ruin.

From a comparison of any government to which the Hindoos have hitherto been subject, with that of Britain, indeed, it is evident that the preference must be given greatly in favour of the latter. At the time when the British first visited that country, they were not under the jurisdiction of their native sovereigns, nor had they been so for a long time before. The Moguls were not only foreigners, but a most cruel and detestable race of men; and it was by usurpations of their own rebellious subjects that the anarchy and confusion was introduced, in which the country was involved for so long a time. The British are foreigners as well as the Moguls; but the latter, who profess the intolerant superstition of Mohammed, suffer their conduct to be influenced by it in such a manner as to treat the natives with the utmost cruelty. The greatest evil perhaps which results from the British government is, the exportation of great sums of money to a foreign country; but this evil, with respect to the provinces possessed by the British, existed also under the Mohammedan government. The Mogul emperors resided at Delhi, which is far distant from the provinces of Bengal, Bahar, and Orissa, the territories now possessed by Britain; so that the greatest part of the treasure sent to that capital was totally lost to them. In the time of Aurengzebe, the emperor's tribute amounted to three millions sterling; and of this a considerable part was specie; but since that time the tribute was fixed at only 1,250,000 l. and even this was a vast sum; to which if we add that carried out of the country by commanders of mercenary troops who were all foreigners, it is not unreasonable to suppose that under the Mogul government matters were still worse, even in this respect, than under that of Britain.

We shall conclude this apology for the British government, with the following extract from the treatise lately quoted, *A short Review of the British Government in India*. "A more detestable or detested race of people never appeared than the Mohammedan conquerors of India; whether we consider the brutality of their passions, the bigotry of their religion, the corruption

Hindoostan tion of their manners, the barbarity of their education, or the tyranny of their government: In all these respects they were the terror and abhorrence of the Hindoos, whose country they invaded, and whose dominion they usurped.

"The fanatic ignorance of the savage caliph which dictated his barbarous reason for destroying the Alexandrian library, had neither been tutored nor refined by the Tartar education of Timur and his predecessors. The same superstitious bigotry which incited the Arabian caliphs to destroy the monuments of western learning, likewise impelled the Tartar khans to overthrow the religious temples of the eastern worship. At the commencement of the 11th century Mahmood entered Hindoostan, and in the course of 12 expeditions he destroyed the famous temples of Nagracut, Tannasar, Matra, and Sumnaut. In the latter end of the next century, Mahmood Gori penetrated as far as the city of Benares, and committed outrage as Mahmood had done before at Nagracut and Sumnaut. Tamerlane possessed as much of this furious zeal as any of his savage predecessors; and if the enthusiasm of this destructive religion had not occasionally abated among some of his successors, they would scarce have left a Hindoo temple or priest in the country they subdued.

"Enough, however, had been done to fix an indelible stain on the memory of those intolerant tyrants, and to make a lasting impression on the minds of the Hindoos, who, to the latest period of the Mogul government, were kept in constant dread of doctrines, which, to their apprehensions, seemed to inspire the Mohammedans with sacrilegious cruelty. Idolatry is as great an abomination to a Mussulman as it was to the Jews when they most strictly revered the divine command which prohibits it; and most of the Hindoo ceremonies being considered by the Mohammedans as acts of idolatry, and all their pagodas as temples of idols, a religious principle excited mutual sentiments of abhorrence and antipathy between the conquerors and their subjects. The rest of the character of the Mohammedans may be summed up in the concise and emphatic words of Mr Scrafton, who says, 'their distinguishing qualities are perfidy and sensuality.'

"But notwithstanding these facts, and that the history of their government is a disgusting repetition of oppression, massacres, and rebellion, the fashion of the times has been to praise it, and to represent the situation of the Hindoos as easy and happy under it, till they were disturbed in this peaceful state of repose and security by the English; who have been described (with unparalleled injustice) as a set of rapacious task-masters. It surely requires a very small degree of reflection to perceive, that such representations of the two governments must, from the very nature of things, be false.

"The Mohammedan conquerors came into India from a barbarous region, with minds and manners as uncultivated as the wilds from which they issued. The only notion they had of government was absolute power in the sovereign, and absolute submission in the subject. The tenets of their religion, so far from softening the ferocity of their nature, served only to whet the edge of their persecution towards the suffering Hindoos, whom they harassed without mercy, and destroyed without remorse. The British conquerors came from a

country famed for arts and sciences; the generous principles of public liberty had been instilled into their minds from their earliest infancy; the mild tenets of Christianity cherished and commanded every charitable duty; and they had been taught, by precept and example, to rule with equity, and to obey with freedom. Can it be supposed that, under these circumstances, the two nations should have totally changed characters on their coming into India? That the barbarous and ferocious Tartar should become mild and enlightened; that the cultivated and generous Briton should have degenerated into a cruel tyrant; and that the British governors should have rendered the situation of their Hindoo subjects worse than it was under the Mogul emperors? Reason revolts at the idea; and nothing but the rankest prejudice could either suggest or adopt it."

With regard to the geography of this country, Mr Rennel observes, that though by the modern Europeans, Hindoostan has been understood to mean the tract situated between the rivers Indus and Ganges on the east and west, the mountains of Thibet and Tartary on the north, and the ocean on the south, the extent of Hindoostan, properly so called, is much more circumscribed; and the name ought only to be applied to that part which lies to the northward of 21° or 22° latitude. The reputed southern boundary of Hindoostan is the Nerbudda river as far as it goes, and the northern frontiers of Bengal and Bahar compose the remainder. The countries to the south of this line are called *Deccan* by the Indian geographers, and comprehend about one half of the territory generally known by the name of the *Mogul Empire*. Our author therefore chooses to distinguish the northern part by the name of *Hindoostan Proper*; which has indeed the Indus and mountains of Thibet and Tartary for its western and northern boundaries; but the Burrampooter river is rather to be considered as the eastern boundary than the Ganges; the latter intersecting some of the richest provinces in the empire. According to this supposition, Hindoostan Proper will equal in size the countries of France, Germany, Bohemia, Hungary, Switzerland, Italy, and the Low Countries; the Deccan and peninsula being about equal to the British islands, Spain, and Turkey in Europe.

Towards the north, Hindoostan is very cold and barren; but towards the south, very hot, and fertile in corn, rice, fruits, and other vegetables. The northern provinces are very mountainous and sandy; while the southern are for the most part level, and well watered with several rivers.

The most remarkable mountains are those which surround it on three sides. Those on the west, separating it from Persia, called, in general, *Soleyman Kây*, or *the mountains of Soleyman*, are of a vast height as well as breadth, and are only passable in certain places, through which roads have been made for the sake of commerce. The chief are those which lead to Kabul, Gazna, and Kandahar. This great chain of mountains is inhabited by different nations, the principal of which are the Afghans, or Patans, and the Baluches, who have extended themselves on the side of India, as well as Persia. The mountains on the north are called *Nagrakut*, *Hima*, or *Mûs Täg*, which has an affinity with *Imaüs*, and by other names, which are given also in common to the mountains on each side,

Hindoſtan. ſeparating Hindoſtan from Tibet. The very proſpect of theſe mountains is frightful, being nothing but hideous precipices, perpetually covered with ſnow, and not to be croſſed without the greateſt danger and difficulty.

The moſt remarkable rivers of Hindoſtan are the Indus and Ganges. The former is called by the orientals, *Send*, *Sind*, or *Sindi*. It riſes in the mountains to the north or north-eaſt of Hindoſtan; whence, after a long courſe, firſt to the ſouth and then to the ſouth-weſt, it falls into the Perſian ſea, below Lower Bander, by ſeveral mouths. In its courſe it receives ſeveral other large rivers, as the Nilâh, Jamal, Behat, and Lakka.

The Ganges, called in the Indies *Ganga*, riſes in the kingdom of Tibet: entering Hindoſtan about the 30th degree of latitude, it runs firſt ſouth-eaſtward by the cities of Bekâner, Minapor, Halabas, Benâres, and Patna, to Rajah Mahl, where it divides into two branches. The eaſtern having paſſed by Dâkka, the capital of Bengal, enters the gulph of that name about Chatigan. The weſtern, deſcending by Koſſum-Bazar and Hughly, falls into the gulph below Shandernagor, towards Pipeli.

Many of the Jews and ancient Chriſtians believed this river to be the Piſon, one of the four mentioned in ſcripture as the boundaries of the terreſtrial paradise. The Indians retain the greateſt reverence for its waters, going in crowds from the remotest parts of the country to waſh in them, from a perſuaſion that they deſace from all the ſpots of ſin. The reaſon of this is, becauſe they imagine this river does not take its ſource from the boſom of the earth, but deſcends from heaven into the paradise of Devendre, and from thence into Hindoſtan. Nothing is more childiſh than the fables of the Bramins on this ſubject, yet the people ſwallow them all. The Mogul and prince of Golconda drink no other water than that of the Ganges: foreigners, on the contrary, pretend that it is very unwholeſome, and that it cannot be ſafely drank till it is firſt boiled. There are a great number of ſuperb pagodas on the banks of the Ganges, which are immenſely rich. At certain feſtivals, there has been ſometimes a concourſe of 100,000 people who came to bathe in it. But what principally diſtinguiſhes this river, beſides its greatneſs and rapidity, is the gold it brings down in its ſands and throws on its banks; and the precious ſtones and pearls it produces, not only in itſelf, but in the gulph of Bengal, into which it diſcharges its waters, and which abound therewith. The Chun or Jemma, the Guderaſu, the Perſilis, Lakia, and ſeveral other rivers, diſcharge themſelves into it during its courſe.

The weather and ſeaſons are, for the general, very regular in this ſpacious country; the winds blowing conſtantly for ſix months from the ſouth, and ſix from the north, with very little variation. The months of April, May, and the beginning of June, till the rains fall, are ſo extremely hot, that the reflection from the ground is apt to bliſter one's face; and but for the breeze or ſmall gale of wind which blows every day, there would be no living in that country for people bred in northern climates; for, excepting in the rainy ſeaſon, the coldeſt day is hotter there at noon than the hotteſt day in England. How-

ever, very ſurpriſing changes of heat and cold ſometimes happen within a few hours; ſo that a ſtifling hot day is ſucceeded by a night cold enough to produce a thin ice on the water, and that night by a noon as ſcorching as the preceding. Sometimes, in the dry ſeaſon, before the rains, the winds blow with ſuch extreme violence, that they carry vaſt quantities of duſt and ſand into the air, which appear black, like clouds charged with rain; but fall down in dry ſhowers, filling the eyes, ears, and noſtrils of thoſe among whom they deſcend, and penetrate every cheſt, cabinet, or cupboard, in the houſes or tents, by the key-hole or crevices.

From Surat to Agra, and beyond, it ſeldom or never rains, excepting in one ſeaſon of the year: that is, from the middle of June to the middle of September. Theſe rains generally begin and end with moſt furious ſtorms of thunder and lightning. During theſe three months it rains uſually every day, and ſometimes for a week together without intermiſſion: by this means the land is enriched, like Egypt by the Nile. Although the land looks before like the barren ſands of the Arabian deſerts; yet, in a few days after thoſe ſhowers begin to fall, the ſurface appears covered with verdure. When the rainy ſeaſon is over, the ſky becomes perfectly ſerene again, and ſcarce one cloud appears all the other nine months: however, a reſreſhing dew falls every night during that dry interval, which cools the air, and cheriſhes the earth.

The produce of Hindoſtan is very rich in every kind, whether it be foſſil, vegetable, or animal. Beſides other precious ſtones found in it, there is a diamond-mine at the town of Soumelpûr in Bengal. Quarries of Theban ſtone are ſo plentiful in the Mogul's empire, that there are both moſques and pagods built entirely of it. Some travellers tell us, there are mines of lead, iron, and copper, and even ſilver; but thoſe of the laſt, if there be any, need not be opened, ſince the bullion of all nations is ſunk in this empire, which will take nothing elſe in exchange for her commodities, and prohibits the exporting it again. They till the ground with oxen and foot-ploughs, ſowing in May and the beginning of June, that all may be over before the rains, and reaping in November and December, which with them is the moſt temperate months in the year. The land is no where incloſed, excepting a little near towns and villages. The graſs is never mowed to make hay, but cut off the ground, either green or withered, as they have occaſion to uſe it. Wheat, rice, barley, and other grain, grow here in plenty, and are very good. The country abounds not leſs in fruits, as pomegranates, citrons, dates, grapes, almonds, and cocoa-nuts; plums, thoſe eſpecially called *mirabolans*; plantanes, which in ſhape reſemble a ſlender cucumber, and in taſte excel a Norwich pear; mangos, an excellent fruit, reſembling an apricot, but larger; ananas or pine-apples; lemons and oranges, but not ſo good as in other countries; variety of pears and apples in the northern parts; and the tamarind-tree, the fruit of which is contained in a pod reſembling thoſe of beans. There are many other kinds of fruit-trees peculiar to the country. But the valuable trees are the cotton and mulberry, on account of the wealth they bring the natives from the manufactures of calicoes and ſilks. They plant abundance of ſugar-

Hippomane Mancinella.

Hemerobius.



Hippobosca.



Hirudo.
N^o 2.



N^o 3.



N^o 4.



Hamatopus.



Haliotis.



Helix.



A. Bell Pin. M. Schupfer fecit.

Hindostan canes here, as well as tobacco; but the latter is not so rich and strong as that of America, for want of knowing how to cure and order it.

||
Hinnom.

Hindostan affords also plenty of ginger, together with carrots, potatoes, onions, garlic, and other roots known to us, besides small roots and herbs for salads; but their flowers, though beautiful to look at, have no scent, excepting roses, and some few other kinds.

There is a great variety of animals in this country, both wild and tame; of the former are elephants, rhinoceroses, lions, tygers, leopards, wolves, jackals, and the like. The jackals dig up and eat dead bodies, and make a hideous noise in the night. The rhinoceros is not common in the Mogul's empire; but elephants are very numerous, some 12, 14, or 15 feet high. There is plenty of venison, and game of several kinds; as red-deer, fallow-deer, elks, antelopes, kids, hares, and such like. None of these are imparked, but all in common, and may be any body's who will be at the pains to take them. Among the wild animals also may be reckoned the musk-animal, apes, and monkeys.

Hindostan affords variety of beasts for carriage, as camels, dromedaries, mules, asses, horses, oxen, and buffaloes. Most of the horses are white, and many curiously dappled, pied, and spotted all over. The flesh of the oxen is very sweet and tender. Being very tame, many use them as they do horses to ride on. Instead of a bit, they put one or two small strings through the gristle of the nostrils, and fastening the ends to a rope, use it instead of a bridle, which is held up by a bunch of gristly flesh which he has on the forepart of his back. They saddle him as they do a horse; and, if spurred a little, he will go as fast. These are generally made use of all over the Indies; and with them only are drawn waggons, coaches, and chariots. Some of these oxen will travel 15 leagues in a day. They are of two sorts; one six feet high, which are rare; another called *dwarfs*, which are only three. In some places, where the roads are stony, they shoe their oxen when they are to travel far. The buffalo's skin makes excellent buff, and the female yields very good milk; but their flesh is neither so palatable nor wholesome as beef. The sheep of Hindostan have large heavy tails, and their flesh is very good, but their wool coarse.

This country is much infested with reptiles and insects; some of a noxious kind, as scorpions, snakes, and rats; but the lizards, which are of a green colour, are not hurtful. Snakes and serpents, we are told, are sometimes employed to dispatch criminals, especially such as have been guilty of some atrocious crime, that kind of death being attended with the most grievous torture. The most troublesome insects in this hot country are flies, musketoes, and chinchies or bugs, the first by day, and the others in the night; when they offend no less by their stench than their bite.

HINE, or HIND, a husbandman's servant. Thus the person who oversees the rest, is called the master's hine.

HINNOM, or the Valley of HINNOM, (anc. geog.), a place that lay to the south of Jerusalem. It was also called the valley of Tophet, and was remarkable for the cruel and barbarous worship of the god Moloch,

where parents made their children pass through the fire in honour of that idol.

HIP, in the materia medica, the fruit of the dog-rose or wild brier. See ROSA.—They contain a sourish sweetish pulp; with a rough prickly matter inclosing the seeds, from which the pulp ought to be carefully separated before it be taken internally: the Wirtemberg college observes, that from a neglect of this caution, the pulp of hips sometimes occasions a pruritus and uneasiness about the anus; and the conserve of it has been known to excite violent vomiting. The conserve is the only officinal preparation of this fruit. And as it is not supposed to possess any particular medical virtue, but is merely used to give form to other articles, the Edinburgh college have, perhaps without any material disadvantage, entirely omitted it.

HIPPARCHUS, a great astronomer, born at Nice in Bithynia, flourished between the 154th and 163d Olympiads. His commentary upon Aratus's phenomena is still extant. Rohault was very much mistaken when he asserted, that this astronomer was not acquainted with the particular motion of the fixed stars from west to east, by which their longitude changes. By foretelling eclipses, he taught mankind not to be frightened at them, and that even the gods were bound by laws. Pliny, who tells this, admires him for making a review of all the stars; by which his descendants would be enabled to discover whether they are born and die, whether they change their place, and whether they increase and decrease.

HIPPIA, in botany; a genus of the polygamia necessaria order, belonging to the syngenesia class of plants. The receptacle is naked; there is no pappus; the seeds are naked, with very broad margins; the calyx is hemispheric, and subimbricated; the radius consists of ten corollulæ, obscure, and rather cleft into three.

HIPPOBOSCA, or HORSE-FLY, in zoology; a genus of insects, belonging to the order of diptera. The beak consists of two valves, is cylindrical, obtuse, and hanging; and the feet have several claws. There are four species, distinguished by their wings, &c. The most remarkable is the equina, the pest of horses and cows. This insect is broad, flat, shining, and as it were scaly. Its head, thorax, and abdomen, are yellow, undulated with brown; and the legs are intersected with yellow and brown. The wings, crossed one over the other, exceed the length of the body by above one half; they are transparent, tinged with a little yellow towards their outward edge, and have a spot near that edge of a brown colour. These insects are very difficult to be killed on account of the hard crustaceous shell which covers them; and they fix so close and fast to the poor animals with their claws, that they cannot rub or bite them off without wounding themselves.

HIPPOCAMPUS, in ichthyology. See SYNGNATHUS.

HIPPOCASTANUM, or common horse-chestnut. See ÆSCULUS.—It may be here added, that from several experiments in the French *Memoires d'Agriculture*, it appears that the fruit of the horse-chestnut affords a wholesome nourishment for cattle, and may even be employed with success for fattening them. It is said to render the tallow of those fattened with it particularly

Hip
||
Hippocastanum.

Plate
CCXXXIV.

Hippo-
centaur
||
Hippocra-
tes.

larly firm. The milk yielded by cows fed upon it, is also said to be thicker and richer than that produced from any other kind of food.—The fruit of this tree has been likewise used as food for sheep and poultry, and as soap for washing. It was much employed in powder as a sternutatory by an itinerant oculist, and has been recommended by some others in certain states of ophthalmia, headach, &c. in which errhines are indicated. Its effects as a sternutatory may also be obtained by using it under the form of infusion or decoction drawn up into the nostrils. And it is entirely with a view to its errhine power that it is now introduced into the pharmacopœia of the Edinburgh college. But besides this, the bark has also been represented by some as a cure for intermittent fevers; and it is probably with this intention that this part of the hippocastanum is introduced as an officinal article in the Pharmacopœia Rossica.

HIPPOCENTAUR (formed of ἵππος “horse,” κεντρὸν *pungo*, “I spur,” and ταύρος “bull,” in antiquity, a fabulous monster, supposed to be half horse and half man.

What gave occasion to the fable was, that a people of Thessaly, inhabiting near mount Pelion, became thus denominated, because they were the first that taught the art of mounting on horseback; which occasioned some of their neighbours to imagine, that the horse and man made but one animal.

The hippocentaurs should seem to have differed from the centaurs, in this, that the latter only rode on bullocks, and the former on horses, as the names themselves intimate.

HIPPOCRAS, a medicinal drink, composed of wine, with spices and other ingredients infused therein; much used among the French by way of a cordial dram after meals.

There are various kinds of hippocras, according to the kind of wine and the other additional ingredients made use of; as white hippocras, red hippocras, claret hippocras, strawberry hippocras, hippocras without wine, cyder hippocras, &c.

That directed in the late London Dispensary, is to be made of cloves, ginger, cinnamon, and nutmegs, beat and infused in canary with sugar; to the infusion, milk, a lemon, and some slips of rosemary, are to be put, and the whole strained through a flannel. It is recommended as a cordial, and as good in paralytic and all nervous cases.

HIPPOCRATIA, in botany: A genus of the monogynia order, belonging to the triandria class of plants; and in the natural method ranking with those of which the order is doubtful. The calyx is quinquepartite; the petals five, the capsules three in number, and the latter of an obcordate shape.

HIPPOCRATES, the greatest physician of antiquity, was born in the island of Cos in the 80th Olympiad, and flourished at the time of the Peloponnesian war. He was the first that we know of who laid down precepts concerning physic; and, if we may believe the author of his life, who goes under the name of *Soranus*, drew his original from Hercules and Æsculapius. He was first a pupil of his own father Heraclides, then of Herodicus, then of Gorgias of Leontinum the orator, and, according to some, of Democritus of Abdera. After being instructed in physic, and in the liberal arts,

and losing his parents, he left his own country, and practised physic all over Greece; where he was so much admired for his skill, that he was publicly sent for with Euryphon, a man superior to him in years, to Perdiccas king of Macedonia, who was then thought to be consumptive. But Hippocrates, as soon as he arrived, pronounced the disease to be entirely mental, as in truth it was. For upon the death of his father Alexander, Perdiccas fell in love with Philas, his father's mistress: and this Hippocrates discerning by the great change her presence always wrought upon him, a cure was soon effected.

Being intreated by the people of Abdera to come and cure Democritus of a supposed madness, he went; but, upon his arrival, instead of finding Democritus mad, he found all his fellow-citizens so, and Democritus the only wise man among them. He heard many lectures, and learned much philosophy from him; which has made Cornelius Celsus and some others imagine, that Hippocrates was the disciple of Democritus, though it is probable they never saw each other till this interview which was occasioned by the Abderites. Hippocrates had also public invitations to other countries. Thus, when a plague invaded the Illyrians and Pæonians, the kings of those countries begged him to come to their relief: he did not go; but learning from the messengers the course of the winds there, he concluded that the distemper would come to Athens; and, foretelling what would happen, applied himself to take care of the city and the students. He was indeed such a lover of Greece, that when his fame had reached as far as Persia, and upon that account Artaxerxes had intreated him by his governor of the Hellespont, with a promise of great rewards, to come to him, he refused to go. He also delivered his own country from a war with the Athenians, that was just ready to break out, by prevailing with the Thessalians to come to their assistance, for which he received very great honours from the Coans. The Athenians also conferred great honours upon him: they admitted him next to Hercules in the Elutian ceremonies; gave him the freedom of the city; and voted a public maintenance for him and his family in the prytanæum or council-house at Athens, where none were maintained at the public charge but such as had done signal service to the state. He died among the Larissæans, some say in his 90th year, some in his 85th, others in his 104th, and some in his 109th. The best edition of his works is that of Foesius, in Greek and Latin. Hippocrates wrote in the Ionian dialect. His aphorisms, prognostics, and all that he has written on the symptoms of diseases, justly pass for master-pieces. See *HISTORY OF MEDICINE*.

HIPPOCRENE (anc. geog.), a fountain of mount Helicon, on the borders of Bœotia, sacred to the Muses. Some, as Ovid, make Hippocrene and Aganippe the same. See AGANIPPE.

HIPPOPHAGI (anc. geog.), a people of Scythia, so called from their living on horse-flesh: the fare at this day of the Tartars their descendants. Also a people of Persia (Ptolemy).

HIPPOCREPIS, COMMON HORSE-SHOE VETCH, in botany: A genus of the decandria order, belonging to the diadelphia class of plants; and in the natural method ranking under the 32d order, *Papilionaceæ*. The legumen is compressed and crooked, with many

Hippocra-
tes
||
Hippocre-
pis.

Hippo-
drome
||
Hippoly-
tus.

incisions on the interior suture. There are three species, two natives of the warm parts of Europe, and one of Britain. They are all low herbaceous trailing plants, with yellow flowers. They are propagated by seeds; but having no great beauty are seldom kept in gardens.

HIPPODROME, **HIPPODROMUS** (composed of ἵππος "horse," and δρόμος "course," of the verb δρέμω *curro*, "I run"), in antiquity, a list or course wherein chariot and horses races were performed, and horses exercised.

The Olympian hippodrome or horse-course was a space of ground of 600 paces long, surrounded with a wall, near the city Elis, and on the banks of the river Alpheus. It was uneven, and in some degree irregular, on account of the situation; in one part was a hill of a moderate height, and the circuit was adorned with temples, altars, and other embellishments. See **STADIUM**. There is a very famous hippodrome at Constantinople, which was begun by Alexander Severus, and finished by Constantine. This circus, called by the Turks *atmeican*, is 400 paces long, and above 100 paces wide. At the entrance of the hippodrome there is a pyramidal obelisk of granite in one piece, about 50 feet high, terminating in a point, and charged with hieroglyphics. The Greek and Latin inscriptions on its base show, that it was erected by Theodosius; the machines that were employed to raise it are represented upon it in basso-relievo. We have some vestiges in England of the hippodromus, in which the ancient inhabitants of this country performed their races; the most remarkable is that near Stonehenge, which is a long tract of ground, about 350 feet, or 200 druid cubits wide, and more than a mile and three quarters, or 6000 druid cubits in length, inclosed quite round with a bank of earth, extending directly east and west. The goal and career are at the east end. The goal is a high bank of earth, raised with a slope inwards, on which the judges are supposed to have sat. The metæ are two tumuli, or small barrows, at the west end of the course. These hippodromes were called in the language of the country *rhedagua*, the racer *rhedagur*, and the carriage *rbeda*, from the British word *rbedeg* "to run." One of these hippodromes, about half a mile to the southward of Leicester, retains evident tracts of the old name *rhedagua*, in the corrupted one of *rawdikes*. There is another of these, says Dr Stukeley, near Dorchester; another on the banks of the river Lowther, near Penrith in Cumberland; and another in the valley, just without the town of Royston.

HIPPOGLOSSUS, in ichthyology; a species of **PLEURONECTES**.

HIPPOLYTUS, a son of Theseus and Hippolyte, famous in fabulous history for his virtue and his misfortunes. His stepmother Phædra fell in love with him, and when he refused to pollute his father's bed, she accused him to Theseus of offering violence to her person. Her accusation was readily believed, and Theseus intreated Neptune to punish the incontinence of his son. Hippolytus fled from the resentment of his father; and as he pursued his way along the sea shores, his horses were so frightened at the noise of sea calves which Neptune had purposely sent there, that they ran among the rocks till his chariot was broken and his

body torn to pieces. Temples were raised to his memory, particularly at Træzene, where he received divine honours. According to some accounts, Diana restored him to life.

HIPPOMANE, the **MANCHINEEL-TREE**: A genus of the adelphia order, belonging to the monœcia class of plants; and in the natural method ranking under the 38th order, *Tricocceæ*. The male has an amenum and bifid perianthium, without any corolla; the female perianthium is trifid; there is no corolla; the stigma is tripartite; and the plum or capsule trilocous.

Species. 1. The *mancinella*, with oval sawed leaves, is a native of all the West India islands. It hath a smooth brownish bark; the trunk divides upward into many branches, garnished with oblong leaves about three inches long. The flowers come out in short spikes at the end of the branches, but make no great appearance, and are succeeded by fruit of the same shape and size with a golden pippin. The tree grows to the size of a large oak. 2. The *biglandulosa*, with oblong bay leaves, is a native of South America; and grows to as large a size as the first, from which it differs mostly in the shape of its leaves. 3. The *spinosa*, with holly leaves, is a native of Campeachy, and seldom rises above 20 feet high; the leaves greatly resemble those of the common holly, and are set with sharp prickles at the end of each indenture. They are of a lucid green, and continue all the year.

Culture. These plants being natives of very warm climates, cannot be preserved in this country without a stove; nor can they by any means be made to rise above five or six feet high even with that assistance. They are propagated by seeds; but must have very little moisture, or they will certainly be killed by it.

Properties. These trees have a very poisonous quality, abounding with an acrid milky juice of a highly caustic nature. Strangers are often tempted to eat the fruit of the first species; the consequences of which are, an inflammation of the mouth and throat, pains in the stomach, &c. which are very dangerous unless remedies are speedily applied. The wood is much esteemed for making cabinets, book-cases, &c. being very durable, taking a fine polish, and not being liable to become worm-eaten: but as the trees abound with a milky caustic juice already mentioned, fires are made round their trunks, to burn out this juice; otherwise those who fell the trees would be in danger of losing their sight by the juice flying in their eyes. This juice raises blisters on the skin wherever it falls, turns linen black, and makes it fall out in holes. It is also dangerous to work the wood after it is sawn out; for if any of the saw-dust happens to get into the eyes of the workmen, it causes inflammations and the loss of sight for some time; to prevent which, they generally cover their faces with fine lawn during the time of working the wood. It is with the juice of this tree that the Indians used to poison their arrows.

HIPPOMANES, a sort of poison famous among the ancients as an ingredient in amorous philters or love-charms. The word is Greek ἵππομανής, composed of ἵππος "a horse," and μανία "fury or madness."

Authors are not agreed about the nature of the hippomanes. Pliny describes it as a blackish caruncle found on the head of a new-born colt; which the dam bites.

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Plate
CCXXXIV.

Hipponax
||
Hippopotamus.

bites off and eats as soon as she is delivered. He adds, that if she be prevented herein by any one's cutting it off before, she will not take to nor bring up the young. Virgil, and after him Servius and Columella, describe it as a poisonous matter trickling from the pudendum of a mare when proud, or longing for the horse. At the end of Mr Bayle's Dictionary is a very learned dissertation on the hippomanes, and all its virtues both real and pretended.

HIPPONAX, a Greek poet, born at Ephesus 540 years before the Christian era. He cultivated the same satirical poetry as Archilochus, and was not inferior to him in the beauty or vigour of his lines. His satirical raillery obliged him to fly from Ephesus. As he was naturally deformed, two brothers, Buphalus and Anthernus, made a statue of him; which, by the ugliness of its features, exposed the poet to universal ridicule. Hipponax resolved to revenge the injury; and he wrote such bitter invectives and satirical lampoons against them, that they hanged themselves in despair. (*Cic. ad Famil. vii. ep. 24.*)

HIPPOPHAE, SEA-BUCKTHORN: A genus of the tetrandria order, belonging to the diœcia class of plants; and in the natural method ranking under the 16th order, *Calycifloræ*. The male calyx is bipartite; there is no corolla; the female calyx is bifid; there is no corolla; there is one style, and a monospermous berry.

Species. 1. The rhamnoides hath a shrubby stem, branching irregularly eight or ten feet high, having a dark brown bark. It is armed with a few thorns; hath spear-shaped, narrow, sessile leaves, of a dark green above, and hoary underneath. 2. The canadensis hath a shrubby brown stem, branching eight or ten feet high, with oval leaves, and male and female flowers on different plants.

Culture, &c. Both these species are very hardy, and may be propagated in abundance by suckers from the roots, by layers, and by cuttings of their young shoots. They are retained in gardens on account of their two-coloured leaves in summer; and in winter, on account of the appearance of the young shoots, which are covered with turgid, irregular, scaly buds. Goats, sheep, and horses, eat the first species; cows refuse it.

HIPPOPODES, HIPPOPEDES, or *Hippopodia*, composed of *ἵππος* horse, and *πῦς* foot, in the ancient geography, an appellation given to a certain people situated on the banks of the Scythian sea, as being supposed to have had horses feet. The hippopodes are mentioned by Dionysius, Geogr. v. 310. Mela, lib. iii. cap. 6. Pliny, lib. iv. cap. 13. and St Augustine, *De Civit.* lib. xvi. cap. 8. But it is conjectured, that they had this appellation given them on account of their swiftness or lightness of foot. Mr Pennant supposes them to have been the inhabitants of the Bothnian Gulph, and that they were the same sort of people as the *Finni Lignipedes* of Olaus. They wore snow-shoes; which he thinks might fairly give the idea of their being, like horses, hoofed and shod.

HIPPOPOTAMUS, the RIVER-HORSE; a genus of quadrupeds belonging to the order of belluæ, the characters of which are these: It has four fore-teeth in the upper jaw, disposed in pairs at a distance from each other; and four prominent fore-teeth in the under jaw,

the intermediate ones being longest: There are two Hippopotamus. tusks in each jaw, those of the under one very long and obliquely truncated; in both they stand solitary, and are recurvated: The feet are hoofed on the edges.

There is but one known species, viz. the amphibius, or river-horse, (Plate CCXXXVI.) The head of this animal is of an enormous size, and the mouth vastly wide. The ears are small and pointed, and lined within very thickly with short fine hairs. The eyes and nostrils are small in proportion to the bulk of the animal. On the lips are some strong hairs scattered in patches here and there. The hair on the body is very thin, of a whitish colour, and scarce discernible at first sight. There is no mane on the neck, as some writers feign, only the hairs on that part are rather thicker. The skin is very thick and strong, and of a dusky colour. The tail is about a foot long, taper, compressed, and naked. The hoofs are divided into four parts. The legs are short and thick. In bulk it is second only to the elephant. The length of a male has been found to be 17 feet, the circumference of the body 15, the height near 7, the legs near 3, the head above $3\frac{1}{2}$, and the girth near 9. The mouth, when open, is above 2 feet wide; and furnished with 44 teeth of different figures (including the cutting teeth and the canine). The cutting, and particularly the canine teeth of the lower jaw, are very long, and so hard and strong that they strike fire with steel. This circumstance, it is probable, gave rise to the fable of the ancients, that the hippopotamus vomited fire from his mouth. The substance of the canine teeth is so white, so fine, and so hard, that it is preferable to ivory for making artificial teeth. The cutting teeth, especially those of the under jaw, are very long, cylindrical, and chamfered. The canine teeth are also long, crooked, prismatic, and sharp, like the tusks of the wild boar. The grinders are square or oblong, like those of man, and so large that a single tooth sometimes weighs three pounds. The tusks, according to Dr Sparman, are 27 inches long.—With such powerful arms, and such a prodigious strength of body, the hippopotamus might render himself formidable to every other animal. But he is naturally of a mild disposition, and is only formidable when provoked. His bulk is so great, that twelve oxen have been found necessary to draw one ashore which had been shot in a river above the Cape; and Hasselquist says, its hide is a load for a camel. Tho' he delights in the water, and lives in it as freely as upon land; yet he has not, like the beaver or otter, membranes between his toes. The great size of his belly renders his specific gravity nearly equal to that of water, and makes him swim with ease.

These animals inhabit the rivers of Africa, from the Niger to Berg River, many miles north of the Cape of Good Hope. They formerly abounded in the rivers nearer the Cape, but are now almost extirpated; and to preserve the few which are left in Berg River, the governor has absolutely prohibited the shooting them without particular permission.—They are not found in any of the African rivers which run into the Mediterranean except the Nile, and even there only in Upper Egypt, and in the fens and lakes of Ethiopia which that river passes through. From the unwieldiness of his body and the shortness of his legs, the hippopotamus

Hippopotamus is not able to move fast upon land, and is then extremely timid. When pursued, he takes to the water, plunges in, sinks to the bottom, and is seen walking there at full ease: he cannot, however, continue there long without often rising towards the surface; and in the daytime is so fearful of being discovered, that when he takes in fresh air the place is hardly perceptible, for he does not venture even to put his nose out of the water. In rivers unfrequented by mankind, he is less cautious, and puts his whole head out of the water. If wounded, he will rise and attack boats or canoes with great fury, and often sink them by biting large pieces out of the sides: and frequently people are drowned by these animals; for they are as bold in the water as they are timid on land. It is reported that they will at once bite a man in two.—In shallow rivers the hippopotamus makes deep holes in the bottom, in order to conceal his great bulk. When he quits the water, he usually puts out half his body at once, and smells and looks around; but sometimes rushes out with great impetuosity, and tramples down every thing in his way.—During the night he leaves the rivers in order to pasture; when he eats sugar-canes, rushes, millet, rice, &c. consuming great quantities, and doing much damage in the cultivated fields. But as he is so timid on land, it is not difficult to drive him off.—The Egyptians (Mr Hasselquist informs us) “have a curious manner of freeing themselves in some measure from this destructive animal. They remark the places he frequents most, and there lay a large quantity of pease: when the beast comes on shore hungry and voracious, he falls to eating what is nearest him; and filling his belly with the pease, they occasion an unsupportable thirst: he then returns immediately into the river, and drinks upon these dry pease large draughts of water, which suddenly causes his death; for the pease soon begin to swell with the water, and not long after the Egyptians find him dead on the shore, blown up, as if killed with the strongest poison.” The river-horse also feeds on the roots of trees, which he loosens with his great teeth; but never eats fish, as is asserted by Dampier. It was reported to Mr Hasselquist, that the river-horse is an inveterate enemy to the crocodile, and kills it whenever he meets it: and that this, with some other reasons, contributes much to the extirpation of the crocodile; which otherwise, considering the many eggs they would lay, would utterly destroy Egypt. But Mr Pennant treats the alleged enmity of the hippopotamus and crocodile as a vulgar error; an eye-witness, he tells us, declaring he had seen them swimming together without any disagreement.—The hippopotami sleep in the reedy islands in the middle of the stream, and on which they bring forth their young. A herd of females has but a single male: they bring one young at a time, and that on the land, but suckle it in the water.—They are capable of being tamed. Belon says, he has seen one so gentle as to be let loose out of a stable and fed by its keeper without attempting to injure any one. They are generally taken in pitfalls, and the poor people eat the flesh. In some parts the natives place boards full of sharp irons in the corn-grounds; which these beasts strike into their feet, and so become an easy prey. Sometimes they are struck in the water with harpoons fastened to cords, and 10 or 12 canoes are employed in the chase.

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The hippopotamus was known to the Romans: Scaurus treated the people with the sight of five crocodiles and one hippopotame during his ædileship, and exhibited them in a temporary lake. Augustus produced one at his triumph over Cleopatra.

This animal is the behemoth of Job; who admirably describes its manners, food, and haunts. “1. Behold now behemoth, which I made near thee: he eateth grass as an ox. 2. Lo! now his strength is in his loins, and his force is in the navel of his belly. 3. His bones are as strong pieces of brass; his bones are like bars of iron. 4. He lieth under the shady trees, in the covert of the reed and fens. 5. Behold! he drinketh up a river: he trusteth he can draw up Jordan into his mouth.” The first, the learned Bochart observes, implies the locality of its situation; being an inhabitant of the Nile, in the neighbourhood of Uz, the land of Job. The second describes its great strength; and the third, the peculiar hardness of its bones. The fourth indicates its residence amidst the vast reeds of the river of Egypt, and other African rivers overshadowed with thick forests. The fifth, the characteristic wideness of its mouth; which is hyperbolically described as large enough to exhaust such a stream as Jordan.

That this article may include every sort of information which could be collected concerning a creature so highly noted and of such ancient fame, we shall add the following particulars, extracted from Sparman’s Voyage to the Cape of Good Hope, where these animals are called *sea-cows*.

“Towards evening (Jan. 24. 1776), we came to a pit in the river, which our guides knew used to be frequented by sea-cows. For this reason, all the different ways by which these animals might come up from the river, were beset by us separately; our hunting-party consisting in the whole of seven persons, viz. five of us Christians, together with my Hottentot and another belonging to the farmers. Besides this, the rest of the Hottentots were ordered to go to the windward and to the more open places; and by smacking their whips, and making other noises, to frighten and drive the animal towards us as soon as it should make its appearance: in consequence of which measures, it appeared to us, that when at length obliged to go on shore in quest of its food, it must necessarily come to the hiding-place of some one of the hunters. Every one of these places were just at the edge of the river, between the reeds which grew on the dry parts of the river, or on those spots which the water had left, and at the same time close to the very narrow paths which the animal had made for itself at each place: in consequence of which disposition, it would inevitably pass not above six inches, or a foot at most, from the mouth of the sportsman’s piece. Consequently our whole dependence was upon two circumstances; viz. that our guns should not miss fire, and that the shot should not fail to prove mortal. In the former case, the sportsman must have inevitably paid for his temerity with his life; though in the latter he had reason to hope, from instances of what had happened to others, that the fire, together with the report from the piece, as well as the ball itself, would confuse the animal, so as to prevent it from immediately making towards its enemy. The banks of the pit which we then beset

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were in most places steep and perpendicular, and the pit itself was almost three quarters of a mile long: but my post and that of my fellow-traveller (Mr Immelman) happened to be at the distance of not above 30 or 40 paces from each other. To these very places too, after we had waited at them an hour and an half in the most profound silence, the enormous animals did not fail to resort. They had already, while on the other side of the river, got scent of the Hottentots; and now showed by their swimming up and down and blowing themselves, as well as by a short but acute and piercing grunt or neighing noise, that they had a great suspicion of these passes. I believe Mr Immelman was not less eager and anxious than myself, each of us expecting every moment to have a bout with a huge enormous beast which we knew had given certain proofs of its being able to bite a man asunder. Yet were we each of us at times no less fearful lest the other should have the honour of killing game of such consequence. The hippopotamus, however, left us, and had made its appearance in the same manner where the farmers were stationed; notwithstanding which, at that very instant we heard it shot at by one of the Hottentots.—The fable darkness of the night, and the glittering of the Hottentot's piece, together with the loudness of the report from it, occasioned by the weight of the charge, and the vibrations of the echo prolonging the sound along the neighbouring chain of mountains, all conspired to compose a most awful and superb spectacle, which was still heightened by the expectation of seeing an animal fall superior in bulk to the elephant. This sublime spectacle was immediately followed by a ridiculous kind of farce performed by a troop of baboons; which, from their calling and answering each other along a straight line, we could discover to be encamped on a steep rocky mountain in the neighbourhood, with regular out-posts in the trees on each side of it. After an interval of a couple of minutes, silence again took place, till two o'clock, when the other Hottentot fired his piece; and another alarm, though of shorter duration, went through the baboons out-posts and head-quarters.

“The next morning, for the arrival of which we ardently longed, in order to satisfy our curiosity, our Hottentot sportsmen related to us the following particulars concerning the adventures of the night. Involved in darkness, covered up to the eyes in reeds, and overshadowed with branches of trees, they could only get a glimpse of the animal, and consequently could not answer for their shots having taken place: and one of them acknowledged, that he was a little confused, as he could not well see what he was about; and for the same reason fired his piece too soon, before the animal had well risen out of the water. The other indeed had had an opportunity, both with the ball and shot that made up the charge, of wounding the animal, which went on its road, and passed directly by him; but he could not see which part of the animal presented itself before the muzzle of his piece. As soon as he had fired, he slunk away, and directly afterwards heard the beast take to the water. The rest of the Hottentots had observed one of these animals, probably a different one from this, run up on a shallow along the river side, and thus make its escape, without their having been able to prevent it. After this we staid here till the afternoon, in

hopes that the wounded animals would die and rise to the top of the water. But we staid in vain; and to as little purpose would it probably have been had we waited still longer, as there grew by the side of the river a great number of trees, to the roots of which these creatures, it is said, in the agonies of death, make themselves fast by means of their long and crooked tusks. On the other hand, supposing these two sea-cows to be but slightly wounded, they would be cautious how they made their appearance; and indeed, in all probability, it would have been a dangerous service to the sportsmen who should have ventured to have followed them any farther. Besides, the water had now, in the space of a few hours, risen considerably, and had overflowed many spots fit for lying in ambush; for which reason we departed to another hippopotamus pit less than this. Here too we laid, by way of snare, a large blunderbuss. The Hottentots occupied one post; two of our company guarded another; other two (an old farmer and his son) stationed themselves at the third, and placed me in the middle of them. Just in this part the banks of the river were of a considerable height, and the river itself was dried up near an extensive shallow, where it was spread out into a little plain covered with pebble-stones and gravel. We three then set ourselves down close by the side of each other, in a path made by the sea-cows, making ourselves pretty certain, as the place was flat, and consequently it was light here, of being able, if any hippopotamus should chance to come upon the shallow and look about it, to see it plain enough to kill it with a volley of three shot. But, to the great endangering of our lives, we on a sudden found the animal much quicker in its motions, as well as bolder, than we had thought it: for while I was sitting half asleep, and moralizing on the subject, struck with the consideration that we with our guns had at that present moment the dominion over Job's leviathan or behemoth; while, on the other hand, the flies or small musquitos had the dominion over us (so much, indeed, that I was obliged to wrap my face up in a handkerchief), a sea-cow came rushing upon us out of the river, with a hideous cry, as swift as an arrow out of a bow; at the same time I heard the farmer call out, “Heer Jesus!” But fortunately at the very instant he discharged his piece, which flashing full in the animal's face contributed perhaps more than the ball to make it start back; when setting up another cry, it threw itself into the water again with as great precipitation as it came out.

“At this I was not a little alarmed; yet, what is very singular, not at the danger, which was real, of being trampled under foot, or being bitten asunder by the beast, but in consequence of my apprehensions, which were merely imaginary, of being drowned: for the rattling noise, arising from the creature's running out of the water and along the stoney beach, immediately suggested to me the idea that the river had on a sudden overflowed its banks; a supposition to which I was the more inclined, as I knew that this accident happens very frequently here. And as the hippopotamus, when it is newly come up out of the water, and is wet and slimy, is said to glisten in the moon-shine like a fish, it is no wonder that as soon as I took my handkerchief from before my eyes, it should appear to

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me, at so near a view as I had of it, like a high column of water, which seemed to threaten to carry us off and drown us in a moment: for which reason I ran, or rather flew, towards the higher ground, leaving both my guns and my brother sentinels behind me. But as just at this spot I was prevented by the steepness of the river's banks from ascending the heights, and nevertheless perceived that neither my companions nor myself were drowned, it ran in my head, for the space of several seconds, that we were all of us either dreaming or delirious. The farmer's son had fallen asleep, and still continued to sleep very soundly. As to the farmer himself, who, panting and breathless, every now and then looked up to heaven, and at the same time, with much awkwardness and bustle, was endeavouring to make his escape, I made all the haste I could to disengage him from a large wrapper, which, as well on account of his gout as by way of keeping off the flies, he had wrapped round his legs. I then asked him what course the water had taken when it overflowed? and he, after a long pause, answered only by asking me in his turn if I was not mad? upon which I was almost ready to put the same question to myself. And even at last, when all this was unriddled to me, I could not help doubting of the truth of it, till I found the farmer's gun was really discharged: for the rattling among the stones and the squashing in the water, occasioned by the sea-cow, was what I first heard, and what made me take to my legs; so that I did not attend in the least either to the report of the gun or the cry of the animal, though these latter appeared to the rest of our party the most terrible: so much, indeed, that they occasioned Mr Immelman, together with the farmer's son-in-law, to fly from their post; though they had seen nothing of all that had happened, and could not easily have come to any harm.—We concluded the chase; and spent the remainder of the night in laughing at each other, in chattering, and forming various conjectures on the subject of the precipitation and impetuous fury of the sea-cow; which, however, was probably as much alarmed and frightened as we ourselves could possibly be: we even smoked a couple of pipes while we listened to the roaring of the lion, and waited for the approach of the morning. Several Hottentots then told us, that soon after the noise and tumult we have been describing had ceased, they had seen a sea-cow making its way out of the river towards that side of it which was unguarded.

“On the 25th, from some traces of the sea-cows which we found in the dust near another spot, we concluded that many of these huge amphibious animals had lately taken up their quarters in a certain pit thereabouts; which we accordingly prepared to lay siege to in every possible way. In the mean time, we saw a young lion make its escape into a close thicket on the side of this same pit, where it might be perfectly safe from us and our hounds. Not much approving of this animal's being so near a neighbour to us, we thought it best for several of us marksmen to be together at each hiding-place; at the same time ordering our Hottentots, partly by making a noise and uproar, and partly by the means of making large fires, to frighten the sea-cows from attempting any of the other passes. These animals had probably been beset in the same manner several times before, as this

night we scarcely heard any thing of them. In the mean while, however, we flattered ourselves, that by continuing to block them up, we should at least by starving them force them to quit their asylum, and expose themselves on the land to the fire of our guns.

“On the 26th likewise we were on the look-out after these animals, between the hours of ten and eleven in the forenoon, and also just before dusk, though upon a quite different plan from what we had before, as we meant now to hit them on their snouts the instant they should stick them up within the reach of our guns out of the water in order to take breath, or more properly (as it is not unaptly called by the colonists) to blow themselves. In order that the shot might prove mortal, we were obliged, however, on this occasion, to direct it in such a manner, that the ball should pass through the cavity of the nose into the brain. It was merely upon this plan that we went out after the sea-cows before we arrived at *Agter Bruntjes-boogte*, and were strengthened by the farmer's party. But we constantly found these animals too shy to allow us to put our designs in execution: for although, in those places where they had not been frightened or wounded, they will often in the middle of the day raise their heads and part of their bodies above the surface of the water, they at this time scarcely ventured just to put one of their nostrils only out of it, in order to breathe almost imperceptibly; and this only for the most part in those spots in which they were sheltered from us by the hanging branches of trees. Notwithstanding this disadvantageous situation, they, in consequence of the acuteness of their smell, seemed still to discern us, especially when we were to the windward of them; as in that case they instantly withdrew to another part.

“The same night we betook ourselves again to our posts; and at half an hour after eight, it being already very dark, a sea-cow began at intervals to put its head up above the water, and utter a sharp, piercing, and, as it were, a very angry cry, which seemed to be between grunting and neighing. Perhaps this cry may be best expressed by the words *hëurkh burkh, bub-bub*: the two first being uttered slowly, in a hoarse but sharp and tremulous sound, resembling the grunting of other animals; while the third, or compound word, is sounded extremely quick, and is not unlike the neighing of a horse. It is true, it is impossible to express these inarticulate sounds in writing; but perhaps one may make nearer approaches to it than one can to the guttural sounds of the Hottentot language. At eleven o'clock came the same or else some other hippopotamus, and in like manner visited the posts we occupied. He did not, however, dare to come up, though to our extreme mortification we heard him come and nibble the boughs which hung over the surface of the water, as well as a little grass and a few low shrubs which grew here and there on the inside of the river's banks. We were, however, in hopes that this way of living would not long suffice animals, one of which only required almost a larger portion than a whole team of oxen. Thus far at least is certain, that if one should calculate the consumption of provisions made by a sea-cow from the size of its fauces, and from that of its body and of its belly, which hangs almost down to the ground, together with the quantity of

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grafs which I have at different times observed to have been consumed by one of these animals in spots whither it has come over night to graze, the amount would appear almost incredible.

"We passed the following night at the same posts as we occupied on the night preceding, the sea-cows acting much in the same manner as before. On the 28th, after sun-rise, just as we were thinking of going from our posts home to our waggons, there comes a female hippopotamus with her calf, from some other pit or river, to take up her quarters in that which we were then blockading. While she was waiting at a rather steep part of the river's banks, and looking back after her calf, which was lame, and consequently came on but slowly, she received a shot in her side, upon which she directly plunged into the river: but was not mortally wounded; for Flip (the farmer's son), the drowsiest of all sublunary beings, who had shot her, and that instant could hardly be awakened by two Hottentots, was still half asleep when he fired his piece. And happy was it for him that the enormous beast did not make towards his hiding or rather sleeping place, and send him into the other world to sleep for ever. In the mean while his shot was so far of service, that one of my Hottentots ventured to seize the calf, and hold it fast by its hind-legs till the rest of the hunting party came to his assistance. Upon which the calf was fast bound, and with the greatest joy borne in triumph to our waggons; though while they were taking it over a shallow near the river, the Hottentots were very much alarmed lest the wounded mother and the other sea-cows should be induced by the cries of the calf to come to its rescue; the creature, as long as it was bound, making a noise a good deal like a hog that is going to be killed, or has got fast between two posts. The sound, however, proceeding from the hippopotamus calf was more shrill and harsh. It showed likewise a considerable share of strength in the attempt it made to get loose, and was found to be quite unmanageable and unwieldy: the length of it being already three feet and a half, and the height two feet; though the Hottentots supposed it to be no more than a fortnight, or at most three weeks, old. When at last it was turned loose, it ceased crying; and when the Hottentots had passed their hands several times over its nose, in order to accustom it to their effluvia, began directly to take to them.

"While the calf was yet alive, I made a drawing of it, a copy of which may be seen in the Swedish Transactions for 1778. After this it was killed, dissected, and eaten up in less than three hours time. The reason of this quick dispatch was partly the warmth of the weather, and partly our being in absolute want of any other fresh provisions. We found the flesh and fat of this calf as flabby as one might have expected from its want of age, and consequently not near so good as that of the old sea-cows; of which I found the flesh tender, and the fat of a taste like marrow, or at least not so greasy and strong as other fat. It is for this reason likewise that the colonists look upon the flesh and fat of the sea-cow as the wholesomest meat that can be eaten; the gelatinous part of the feet in particular, when properly dressed, being accounted a great delicacy. The dried tongues of these animals are also

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considered even at the Cape as a rare and savory dish. On my return to Sweden, I had the honour to furnish his majesty's table with a dried sea-cow's tongue, two feet and eight inches long. With respect to form, the tongue of a full-grown hippopotamus is very blunt at the tip, and is in fact broadest at that part; if at the same time it is slanted off towards one side, and marked with lobes, as I was informed it is, this circumstance may, perhaps, proceed from the friction it suffers against the teeth, towards the side on which the animal chiefly chews; at least some traces of this oblique form were discoverable on the dried tongue I am speaking of.

"The hide of the adult hippopotamus bears a great resemblance to that of the rhinoceros, but is rather thicker. Whips likewise made of this hide are stronger, and after being used some time, are more pliable than those made of the hide of the rhinoceros usually are, though they are not so transparent as these latter are when new.

"The food of the hippopotamus consists entirely of herbs and grafs, a circumstance of which we are informed by Father Lobo; and which may partly be inferred from what I have already said on the subject, as well as from the figure of the stomach belonging to the foetus of a hippopotamus given in Messrs de Buffon and Daubenton's elegant work. I therefore do not look upon it as very probable, that these animals, agreeably to the assertions of M. de Buffon, p. 93. or of Dampier in his voyage, should hunt after fish by way of preying upon them; especially as in some of the rivers of the southern part of Africa, where the sea-cows are seen daily and in great abundance, there is not a fish to be seen; and in others only a few bastard springers, as they are called (*cyprinus gonorynchus*), which are scarcely as big as a common herring. It is said, that a small species of carp is still more rarely to be met with here. It is true, that the sea-cows sometimes frequent the mouths of the rivers here, which are full of sea-fish, and even sometimes the sea itself: we know, however, that these huge quadrupeds are notwithstanding this obliged to go from thence upon dry-land in quest of food. Neither is it probable that they can drink the sea-water; as an instance was related to me of the contrary in a hippopotamus, which, having been disturbed in the rivers, had taken refuge in the sea, and yet was obliged to go ashore every night and drink fresh water from a well in the neighbourhood, till at last it was shot by some people that lay in wait for it there. That the hippopotamuses actually lived in salt-water, I have seen evident proofs at the mouths both of *Kromme* and *Camtour* rivers, particularly in the latter, on my journey homewards; where many of these animals blowed themselves in broad-day-light, and thrust their heads up above the water; and one of them in particular, which had been wounded by an ill directed shot on the nose, neighed from anger and resentment. In Krakekamma I saw on the beach manifest traces of a hippopotamus which had come out of the sea, but had retired thither again directly. That very attentive navigator Captain Burtz informed me, that he had frequently seen on the eastern coast of Africa sea-horses (meaning probably the hippopotamus) raise their heads above the surface of the water, in order to blow themselves and neigh. I have

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have been induced to be rather circumstantial on this subject, as M. Adanson had taken into his head, in his *Voyage au Senegal*, to limit the abode of the hippopotamus to the fresh water rivers only in Africa; and M. de Buffon has taken upon him to support this opinion, and to render Kolbe's testimony to the contrary liable to suspicion.

"An old experienced huntsman told me, that he had once seen two hippopotamuses copulate, which they did in the same manner as common cattle. On this occasion the beasts stood in a shallow part of the river, where the water reached up to their knees.

"The method of catching the hippopotamus consists (besides shooting it) in making pits for it in those parts which the animal passes in his way to and from the river: but this method is peculiar to the Hottentots; and is only practised by them in the rainy season, as the ground in summer is too hard for that purpose. It is said that they have never succeeded in killing this huge aquatic animal with poisoned darts, though this way of killing game is practised with advantage by the Hottentots for the destruction both of the elephant and rhinoceros. The colonists likewise were not entirely unacquainted with the method mentioned by M. Hasselquist, as being common in Egypt, viz. to strew on the ground as many pease or beans as the animal can possibly eat, by which means it bursts its belly and dies. But as this method is very expensive, and they can generally have this animal for a single charge of powder and a tin ball, shot in a proper direction, they chiefly and almost solely have recourse to this cheaper expedient.

"The hippopotamus is not so quick in its pace on land as the generality of the larger quadrupeds, though perhaps it is not so slow and heavy as M. de Buffon describes it to be; for both the Hottentots and colonists look upon it as dangerous to meet a hippopotamus out of the water, especially as, according to report, they had had a recent instance of one of these animals, which, from certain circumstances, was supposed to be in rut, having for several hours pursued a Hottentot, who found it very difficult to make his escape. The people of this country did not entertain that opinion of the medicinal virtues of the hippopotamus, as they did of certain parts of the elephant and rhinoceros; excepting one colonist, who imagined he had found the *os petrosum* of this animal reduced to powder, and taken in the quantity that would lie on the point of a knife, excellent in convulsions, and particularly in the convulsions (*stuypen*) of children. That the flesh is reckoned very wholesome food, I have already mentioned.

"Having already exceeded the limits I had prescribed to myself, I do not intend to dwell here on the anatomy of the hippopotamus we caught, particularly as the internal conformation of the calves is somewhat different from that of the adult animal. I shall therefore only briefly mention the following particulars: the stomachs were four in number, and consequently one more than in the foetus examined by M. Daubenton, which was kept in spirits. Compare Buffon, Tom. xii. Tab. iv. fig. 2. The two first stomachs were each of them about seven inches long and three inches in diameter; the third was nine inches in length, and a little wider than

the two former; the fourth was seven inches long, and at the upper part five inches broad, but decreased by degrees on one side till it terminated in the *pylorus*, which had an aperture an inch in width, being about half as wide again as the *cardia*. I did not observe any such valves as M. Daubenton has delineated. The first stomach we found mostly empty, it containing only a few lumps of cheese or curd; it likewise differed from the rest by the superior fineness of its internal coat. The internal membrane of the second stomach was rather coarser, and had many small holes in it; it likewise contained several clods of caseous matter, together with a great quantity of sand and mud. The third stomach had very visible folds, both longitudinal and transversal, on the inside of it, and contained caseous lumps of a yellow colour and harder consistence than the others, together with several leaves quite whole and fresh, and at the same time some dirt. The interior membrane of the fourth stomach was very smooth, though it was not without folds; in the stomach itself there was a good deal of dirt, with a small quantity of curds, which were whiter than they were in any of the other stomachs. This fourth stomach in a great measure covered the rest, being situated on the right side of the animal, and was found to have the upper part of the melt adhering to its superior and interior edge. This latter viscus, which was one foot long and three inches broad, diverged from it downwards on the left side. The intestinal canal was 109 feet long; the liver measured 14 inches from right to left, and 7 or 8 from the hind part to the fore part. On its anterior edges it had a large notch, being in other respects undivided and entire; it was of an oblique form, being broadest towards the left side, where I discovered a gall-bladder five inches in length. In the uterus there was nothing particularly worthy of observation. I found two teats, and the heart surrounded with much fat; the length of this muscle was five inches, and the breadth about four inches and a half. The communication between the auricles, called the *foramen ovale*, was above an inch in diameter. Each lung was eleven inches long and undivided: but at the superior and exterior part of the right lung there were two globules or processes elevated half an inch above the surface; and on the side corresponding to it, in the left lung, and in the upper part of it, there was a little excrescence, terminating in a point: somewhat below this, yet more forwards, there was found likewise a process half an inch in height. Directly over the lower part of the communication formed between the right and left lung, there was a kind of crest or comb, measuring an inch from the top to the basis.

"One of my brother sportsmen said, he had once observed a peculiar kind of vermin on the body of one of these amphibious animals; but on the calf we had caught we found nothing but a species of leech, which kept only about the anus, and likewise a good way up in the strait gut, where, by a timely abstraction of the blood, they may be of use to these large amphibious animals; and particularly may act as preservatives against the piles, repaying themselves for their trouble in kind. Most of them were very small; but on the other hand there was a considerable number of them. The only large one I saw of this species, being somewhat

Hippopota-
mus.

Hippopotamus,
Hippuris.

what more than an inch in length, I described and made a drawing of: this is inserted by the name of the *Hirudo Capensis*, *corpore supra nigricante, medio longitudinaliter sub-brunneo, subtus pallide fusco*, in the elegant Treatise on Worms, which M. Adolphus Nodeer, first secretary of the patriotic society, is preparing for the press. Instead of the lighter coloured streak upon the back, there was discoverable in some of these leeches one and sometimes two longitudinal brownish lines, which grew fainter and fainter towards the extremities.

"The huge animal of which we have been speaking, has doubtless obtained its present name of hippopotamus, which signifies river-horse, merely in consequence of the neighing sound it makes; as otherwise in its form it bears not the least resemblance to a horse, but rather to a hog. Neither does it in the least resemble the ox; so it could be only the different stomachs of this animal which could occasion it to be called *sea-cow* at the Cape; and perhaps it is for the same reason that the Hottentots call it the *t'gao*, which nearly approaches to *t'kau*, the name by which the buffalo is known among these people.

"From the account given by Bellonius of a tame hippopotamus, which he describes as a beast of a very mild and gentle nature, as well as from the disposition of the calf we had just caught, it follows, that this animal might be easily brought over to Europe, where it has been formerly exhibited at two different times in the public spectacles at Rome. For this purpose, the capture might easiest be made at Konaps-river, where these animals, according to the accounts given me by the Caffres, reside in great abundance; and milch-cows might be kept ready at hand, in order to rear the calf in case it was a suckling. Indeed I am apt to suppose, that one a little older than this would not be very nice in its food; as that which we caught was induced by hunger, as soon as it was let loose near the waggon, to put up with something not extremely delicate, which had been just dropped from one of our oxen. This perhaps may appear very extraordinary in an animal with four stomachs; but there have been instances of this kind known in common cattle, which in Herjedal are partly fed with horse-dung. (Vid.

• *Hulphers's A. A. Hulphers's Beskrifning om Norrland**, 3:je Saml. om Herjedalen, p. 27—87.) I have been likewise assured, that this method of feeding cattle has been practised with great advantage in Uplandia, when there has been a scarcity of fodder; and that afterwards these same cattle, even when they have not been in want of proper fodder, have taken to this food of their own accord, and eaten it without any thing else being mixed with it."

HIPPURIS, MARE'S-TAIL: A genus of the monogynia order, belonging to the monandria class of plants; and in the natural method ranking under the 15th order, *Inundatae*. There is no calyx, nor any petals; the stigma is simple; and there is one seed. There is only one species, a native of Britain, and which grows in ditches and stagnant waters. The flower of this plant is found at the base of each leaf, and is as simple as can be conceived; there being neither empalement nor blossom; and only one chive, one pointal, and one seed. It is a very weak astrin-

gent. Goats eat it; cows, sheep, horses, and swine, refuse it.

HIRÆA, in botany; a genus of the trigynia order, belonging to the decandria class of plants. The calyx is pentaphyllous; the petals roundish and unguiculated; there are three bilabiated seeds.

HIRAM, a king of Tyre, cotemporary with Solomon, whom he supplied with cedar, gold, silver, and other materials for building the temple. He died 1000 years B. C.

HIRAM of Tyre, an artist who assisted in the construction of Solomon's temple, and other public buildings at Jerusalem, flourished 1015 B. C.

HIRCANIA (anc. geog.) See **HYRCANIA**.

HIRCH-HORN, a town of Germany, in the circle of the lower Rhine, with a strong castle. It is seated on the side of a hill on the river Neckar, and belongs to the elector Palatine. E. Long. 9. 0. N. Lat. 49. 28.

HIRE (Philip de la), an eminent French mathematician and astronomer, born at Paris in 1640. His father, who was painter in ordinary to the king, designed him for the same profession: but he devoted himself to mathematical studies, and was nominated together with M. Picard to make the necessary observations for a new map of France by the directions of M. Colbert. In 1683, he was employed in continuing the famous meridian line begun by M. Picard; and was next engaged in constructing those grand aqueducts which were projected by Louis XIV. He died in 1718, after having written a great number of works, besides several occasional papers dispersed in journals, and in memoirs of the Academy of Sciences.

HIRING, in law. See *BORROWING* and *Hiring*.

HIRPINI (anc. geog.), a people of Italy, next to the Samnites, to the south-east, and descendants from them; situated to the north of the Picentini, and to the west of the Apuli, having on the north the Apennin and a part of Samnium. The name is from *Hirpus*, a term denoting a wolf in their language; either because under the conduct of this animal the colony was led and settled, according to Strabo; or because, like that prowling animal, they lived on plunder, according to Servius.

HIRSBERG, a town of Silesia, in the territory of Jauer, famous for its mineral baths. It is seated on the river Bosar, in E. Long. 17. 50. N. Lat. 50. 50.

HIRSCHFELD, a town of Germany, in the circle of the upper Rhine, and capital of a principality of the same name, depending on a famous abbey which was secularized in favour of the house of Cassel. It is seated on the river Fulda, in E. Long. 9. 52. N. Lat. 51. 46.

HIRTELLA, in botany: A genus of the monogynia order, belonging to the pentandria class of plants; and in the natural method ranking with those of which the order is doubtful. There are five petals; the filaments are very long, persisting, and spiral; the berry is monospermous; the style lateral.

HIRUDO, the **LEECH**; a genus of insects belonging to the order of vermes intestina. The body moves either forward or backward. There are several species, principally distinguished by their colour. The most remarkable are the following.

1. The

Hiræa
||
Hirudo.

Hirudo.

Plate
CCXXXIV.

1. The medicinalis, or medicinal leech, the form of which is well known, grows to the length of two or three inches. The body is of a blackish brown colour, marked on the back with six yellow spots, and edged with a yellow line on each side; but both the spots and the lines grow faint, and almost disappear, at some seasons. The head is smaller than the tail, which fixes itself very firmly to any thing the creature pleases. It is viviparous, and produces but one young one at a time, which is in the month of July. It is an inhabitant of clear running waters, and is well known for its use in bleeding. 2. The sanguisuga, or horse-leech, is larger than the former: Its skin is smooth and glossy; the body is depressed; the back is dusky; and the belly is of a yellowish green, having a yellow lateral margin. It inhabits stagnant waters. 3. The geometra, or geometrical leech, grows to an inch and a half in length; and has a smooth and glossy skin of a dusky brown colour, but in some seasons greenish spotted with white. When in motion, its back is elevated into a kind of ridge; and it then appears as if measuring the space it passed over like a compass, whence its name. Its tail is remarkably broad; and it holds as firmly by it as by the head. It is common on stones in shallow running waters; and is often found on trout and other fish after the spawning season. 4. The muricata, or muricated leech, has a taper body, rounded at the greater extremity, and furnished with two small tentacula or horns strongly annulated and rugged upon the rings, the tail dilated. It inhabits the Atlantic Ocean, and is by the fishermen called the *sea leech*. It adheres to fish, and generally leaves a black mark on the spot.

The organs of generation in leeches are formed like those of the sea and land snails. See *HELIX*.—The leech's head is armed with a sharp instrument that makes three wounds at once. They are three sharp tubercles, strong enough to cut through the skin of a man, or even of an ox or horse. Their mouth is as it were the body of the pump, and their tongue or fleshy nipple the sucker; by the working of this piece of mechanism, the blood is made to rise up to the conduit which conveys it to the animal's stomach, which is a membranaceous skin divided into 24 small cells. The blood which is sucked out is there preserved for several months almost without coagulating, and proves a store of provision to the animal. The nutritious parts, pure and already digested by animals, have no call to be disengaged from heterogeneous substances; nor indeed is there an anus discoverable in the leech, mere transpiration seems to be all that it performs, the matter fixing on the surface of its body, and afterwards coming off in small threads. Of this an experiment may be tried by putting a leech into oil, where it keeps alive for several days; upon being taken out and put into water, there appears to loosen from its body a kind of slough shaped like the creature's body. The organ of respiration, though unascertained, seems to be situated in the mouth; for if, like an insect, it drew its breath through vent holes, it would not subsist in oil, as by it they would be stopped up.

It is only the first species that is used in medicine; being applied to tender parts upon the vessels in order to draw off the inspissated blood with which they are overcharged, or to phlebotomize young children. If

the leech does not fasten, a drop of milk is put on the spot it is wished to fix on, or a little blood is drawn by means of a slight puncture, after which it immediately settles. Prudence requires it should be held fast with a piece of rush, lest it should find its way into the anus when used for the hemorrhoids, or penetrate into the œsophagus if employed to draw the gums; otherwise it would make the greatest havoc either in the stomach or intestines. In such a case, the best remedy is to drink salt water; which is the method practised to make it loose its hold when it sucks longer than was intended. Oil of tartar, volatile alkali, pepper, and acids, make it also leave the part on which it was applied. If, on the contrary, it is intended it should draw a larger quantity of blood, the end of its tail is cut off. It then sucks continually to make up the loss it sustains. The discharge occasioned by the puncture of a leech is easily stopped with brandy or other styptics.

At Ceylon, travellers who walk bare legged are molested by the great numbers of leeches concealed under the grass.—All leeches vary in their colours at some seasons, but they are generally of a dusky greenish brown or yellow, and often variegated. They are said to be very restless before a change of weather, if confined in glasses.

HIRUNDO, in ornithology, a genus of birds of the order of *passeres*. There are 37 species, chiefly distinguished by their colour. The most remarkable are,

1. The *rustica*, common or chimney-swallow, is distinguished from all the other species by the superior forkiness of its tail, and by the red spot on the forehead and under the chin. The crown of the head, the whole upper part of the body, and the coverts of the wings, are black, glossed with a rich purplish blue, most resplendent in the male: the breast and belly white, and in the male tinged with red: the tail is black; the two middle feathers are plain, the others marked transversely near their ends with a white spot: the exterior feathers of the tail are much longer in the male than in the female. The food of this swallow is the same with the others of its kind, viz. insects. For the taking of these, in their swiftest flight, nature has admirably contrived their several parts: their mouths are very wide to take in flies, &c. in their quickest motion; their wings are long, and adapted for distant and continual flight; and their tails are forked, to enable them to turn the readier in pursuit of their prey. This species is the first comer of all the British hirundines; and appears in general on or about the 13th of April, though now and then a straggler is seen much earlier. This *hirundo*, though called the *chimney-swallow*, by no means builds altogether in chimneys, but often within barns and out-houses against the rafters; and so she did in Virgil's time:

Ante
Garrula quàm tignis nidos suspendat hirundo.

In Sweden she builds in barns, and is called *ladu swala*, the barn swallow. Besides, in the warmer parts of Europe, there are no chimneys to houses except they are English built: in these countries she constructs her nest in porches, and gate-ways, and galleries, and open halls. Here and there a bird may affect some odd peculiar place:

Hirundo.

Barbut's

Genera Ver-
mum, p. 21.Plate
CCXXXV.

Hirundo. place: but in general with us this species breeds in chimneys; and loves to haunt those stacks where there is a constant fire, no doubt for the sake of warmth. Not that it can subsist in the immediate shaft where there is a fire; but prefers one adjoining to that of the kitchen, and disregards the perpetual smoke of that funnel. Five or six or more feet down the chimney does this little bird begin to form her nest about the middle of May, which consists, like that of the house-martin, of a crust or shell composed of dirt or mud, mixed with short pieces of straw to render it tough and permanent; with this difference, that whereas the shell of the martin is nearly hemispheric, that of the swallow is open at the top, and like half a deep dish: this nest is lined with fine grasses, and feathers which are often collected as they float in the air. Wonderful is the address (Mr White observes) which this adroit bird shows all day long in ascending and descending with security through so narrow a pass. When hovering over the mouth of the funnel, the vibrations of her wings acting on the confined air occasion a rumbling like thunder. It is not improbable that the dam submits to this inconvenient situation so low in the shaft, in order to secure her broods from rapacious birds, and particularly from owls, which frequently fall down chimneys, perhaps in attempting to get at these nestlings.

This bird lays from four to six white eggs, dotted with red specks; and brings out her first brood about the last week in June, or the first week in July. The progressive method by which the young are introduced into life is very amusing: First, they emerge from the shaft with difficulty enough, and often fall down into the rooms below: for a day or so they are fed on the chimney-top, and then are conducted to the dead leafless bough of some tree, where, sitting in a row, they are attended with great assiduity, and may then be called *perchers*. In a day or two more they become flyers, but are still unable to take their own food: therefore they play about near the place where the dams are hawking for flies; and, when a mouthful is collected, at a certain signal given, the dam and the nestling advance, rising towards each other, and meeting at an angle; the young one all the while uttering such a little quick note of gratitude and complacency, that a person must have paid very little regard to the wonders of Nature that has not often remarked this feat. The dam betakes herself immediately to the business of a second brood as soon as she is disengaged from her first; which she at once associates with the first broods of house-martins; and with them congregates, clustering on sunny roofs, towers, and trees. This *hirundo* brings out her second brood towards the middle and end of August. All the summer long is the swallow a most instructive pattern of unwearied industry and affection; for from morning to night, while there is a family to be supported, she spends the whole day in skimming close to the ground, and exerting the most sudden turns and quick evolutions. Avenues, and long walks under hedges, and pasture-fields, and mown meadows where cattle graze, are her delight,

N^o 154.

especially if there are trees interspersed; because in such spots insects most abound. When a fly is taken a smart snap from her bill is heard, resembling the noise at the shutting of a watch-case; but the motion of the mandibles are too quick for the eye.

The swallow, probably the male bird, is the excubitor to house-martins and other little birds, announcing the approach of birds of prey. For as soon as an hawk appears, with a shrill alarming note he calls all the swallows and martins about him; who pursue in a body, and buffet and strike their enemy till they have driven him from the village, darting down from above on his back, and rising in a perpendicular line in perfect security. This bird also will sound the alarm, and strike at cats when they climb on the roofs of houses or otherwise approach the nests. Each species of *hirundo* drinks as it flies along, sipping the surface of the water; but the swallow alone, in general, washes on the wing, by dropping into a pool for many times together: in very hot weather house-martins and bank-martins dip and wash a little.—The swallow is a delicate songster, and in soft sunny weather sings both perching and flying; on trees in a kind of concert, and on chimney-tops: it is also a bold flyer, ranging to distant towns and commons even in windy weather, which the other species seem much to dislike; nay, even frequenting exposed sea-port towns, and making little excursions over the salt-water. Horsemen on wide downs are often closely attended by a little party of swallows for miles together, which plays before and behind them, sweeping around, and collecting all the sculking insects that are roused by the trampling of the horses feet: when the wind blows hard, without this expedient, they are often forced to settle to pick up their lurking prey.

This species feeds much on little coleoptera, as well as on gnats and flies; and often settles on dug ground, or paths, for gravels to grind and digest its food. Mr White informs us, that before they depart, for some weeks, to a bird, they forsake houses and chimneys, and roost in trees; and usually withdraw about the beginning of October; though some few stragglers may be seen at times till the first week in November. Mr Pennant says, that for a few days previous to their departure, they assemble in vast flocks on house-tops, churches, and trees, from whence they take their flight (A). They are supposed to take up their winter-quarters in Senegal and parts adjacent; and seem to possess in turn the whole of the old continent, being known from Norway to the Cape of Good Hope on the one hand, and from Kamtschatka to India and Japan on the other. They are also found in all parts of North America, migrating north and south, as with us. Kalm says, that in America they build in houses and under the outsides of the roofs; also on the mountains, in such parts of them as project beyond the bottom, as well as under the corners of perpendicular rocks.

2. The *tahitica*, or *Otaheite* swallow, is five inches in length; its body is of a brown-black colour with a shining

(A) See MIGRATION.—Concerning the annual disappearance of these birds, however, naturalists have entertained different opinions; a detail of which, as the subject is curious, and would form too long a digression in this place, is reserved for a separate article. See SWALLOW.

Hirundo. shining bluish gloss, the breast of a fulvous purple, the abdomen of a footy brown; the bill, tail, and legs are black. It inhabits the mountainous parts of Otaheite. See Fig. 1.

3. The esculenta, or edible swallow, according to Buffon, is less than the wren, and only two inches and a quarter in length. The bill is black; the upper parts of the body are brown, the under whitish; the tail is forked, and each feather of it tipped with white: the legs are brown. See Fig. 2.

Mr Latham thinks, that the size as above described is by much too small, as Mr Marsden says that the bird "appears to be the common martin;"—"and (says Mr Latham) we are much inclined to think that it is at least of that size, from the eggs which accompany the nest now in the British museum, which are as big as those of the martin, and of the same colour. However, we cannot dispute the point." The most curious part of the natural history of this bird consists in the nest, which is composed of such materials as render it not only edible, but one of the greatest dainties of the Asiatic epicures.

These nests (of which a particular account is given under the article *BIRDS-Nests*) are found in vast numbers in certain caverns, in various isles in the Soolo Archipelago, situated between longitude 117 and 120, latitude 5 and 7; particularly in three small isles, or rather rocks; in the caverns of which the nests are found fixed to the sides in astonishing numbers. They are also found in amazing quantities on a small island called *Toc*, in the straits of Sunda; the caverns of which are lined with the nests: but nowhere in greater abundance than about Croee, near the south end of Sumatra, four miles up a river of that name. But they are not peculiar to the above places; for they are likewise common from Java to Cochinchina on the north, and from the point of Sumatra west, to New Guinea on the east; where the sea is said to be covered with a viscous substance like half-melted glue, which the bird is supposed either to take up from the surface with its bill during flight, or to pick it from the rocks when left there by the waves.—Of these nests, it is said the Dutch alone export from Batavia 1000 pickles (B) every year, which are brought from the isles of Cochinchina, and those lying to the east of them. It is much to be wondered, that, among other luxuries imported by us from the east, the use of these nests should not have found a way to our tables; as being yet so scarce in England as to be kept as rarities in the cabinets of collectors. The bird itself at Sumatra is known by the name of Layonglayong.

4. The borbonica, or wheat-swallow, is about the size of the swift: the plumage above is blackish brown; beneath grey, marked with longitudinal brown spots: the tail is even at the end: the bill and legs are black. This species inhabits the Isle of France; frequenting places sown with wheat, and glades of woods; affecting elevated situations, and frequently seen perched on trees and stones. It follows herds of cattle for the sake of the flies which surround them; and is frequently seen in the wake of ships in great numbers, in

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the road near the isle, no doubt for the same purpose. It is often observed of evenings about the clefts in the mountains, where it is said to pass the night; and where it makes its nest, which is composed of straw and feathers. It lays two eggs, of a grey colour dotted with brown.

5. The francica, or grey-rumped swallow, is in length four inches and a quarter; having the upper parts of the body blackish, the rump and under parts whitish or grey. This species also inhabits the Isle of France, but not in great numbers; and is found chiefly in the neighbourhood of fresh waters. It flies swift; and is seldom observed to perch. It is supposed to rest in the woods at night, being seen about the skirts of them towards evening. It is generally very lean, and not good food.

6. The urbica, or martin, is inferior in size to the chimney-swallow, and its tail much less forked. The head and upper-part of the body, except the rump, is black glossed with blue: the breast, belly, and rump, are white: the feet are covered with a short white down. This is the second of the swallow-kind that appears in our country; and of its manners and economy we have the following curious account in the Rev. Mr White's Natural History of Selborne. "They begin to appear about the 16th of April; and for some time they in general pay no attention to the business of nidification: they play and sport about, either to recruit from the fatigue of their journey, if they do migrate at all; or else that their blood may recover its true tone and texture after it has been so long benumbed by the severities of winter. About the middle of May, if the weather be fine, the martin begins to think in earnest of providing a mansion for its family. The crust or shell of this nest seems to be formed of such dirt or loam as comes most readily to hand, and is tempered and wrought together with little bits of broken straws to render it tough and tenacious. As this bird often builds against a perpendicular wall without any projecting ledge under, it requires its utmost efforts to get the first foundation firmly fixed, so that it may safely carry the superstructure. On this occasion the bird not only clings with its claws, but partly supports itself by strongly inclining its tail against the wall, making that a fulcrum; and thus steadied, it works and plasters the materials into the face of the brick or stone. But then, that this work may not, while it is soft and green, pull itself down by its own weight, the provident architect has prudence and forbearance enough not to advance her work too fast; but by building only in the morning, and by dedicating the rest of the day to food and amusement, gives it sufficient time to dry and harden. About half an inch seems to be a sufficient layer for a day. Thus careful workmen, when they build mud-walls (informed at first perhaps by this little bird) raise but a moderate layer at a time, and then desist; lest the work should become top-heavy, and so be ruined by its own weight. By this method in about 10 or 12 days is formed an hemispheric nest, with a small aperture towards the top, strong, compact, and warm; and perfectly fitted for all the purposes for which it was intended.

3 Z

ed.

(B) The pickle, or pekul, is about 125 pounds; or, as Dampier says, 300 pickles are equal to 396 pounds English weight.—See Voy. vol. ii. p. 132.

Hirundo. ed. But then nothing is more common than for the house-sparrow, as soon as the shell is finished, to seize on it as its own, to eject the owner, and to line it after its own manner. After so much labour is bestowed in erecting a mansion, as nature seldom works in vain, martins will breed on for several years together in the same nest, where it happens to be well sheltered and secure from the injuries of the weather. The shell or crust of the nest is a sort of rustic-work, full of knobs and protuberances on the outside: nor is the inside of those that I have examined smoothed with any exactness at all; but is rendered soft and warm, and fit for incubation, by a lining of small straws, grasses, and feathers; and sometimes by a bed of moss interwoven with wool. In this nest they tread or engender, frequently during the time of building; and the hen lays from three to five white eggs. At first, when the young are hatched, and are in a naked and helpless condition, the parent birds, with tender assiduity, carry out what comes away from their young. Was it not for this affectionate cleanliness, the nestlings would soon be burnt up and destroyed in so deep and hollow a nest by their own caustic excrement. In the quadruped creation the same neat precaution is made use of, particularly among dogs and cats, where the dams lick away what proceeds from their young. But in birds there seems to be a particular provision, that the dung of nestlings is enveloped in a tough kind of jelly, and therefore is the easier conveyed off without soiling or daubing. Yet, as nature is cleanly in all her ways, the young perform this office for themselves in a little time, by thrusting their tails out at the aperture of their nest. As the young of small birds presently arrive at their *plumix*, or "full growth," they soon become impatient of confinement, and sit all day with their heads out at the orifice, where the dams, by clinging to the nest, supply them with food from morning to night. For a time the young are fed on the wing by their parents; but the feat is done by so quick and almost imperceptible a flight, that a person must have attended very exactly to their motions, before he would be able to perceive it. As soon as the young are able to shift for themselves, the dams immediately turn their thoughts to the business of a second brood: while the first flight, shaken off and rejected by their nurses, congregate in great flocks, and are the birds that are seen clustering and hovering on sunny mornings and evenings round towers and steeples, and on the roofs of churches and houses. These congregations usually begin to take place about the first week in August; and therefore we may conclude that by that time the first flight is pretty well over. The young of this species do not quit their abodes all together; but the more forward birds get abroad some days before the rest. These approaching the eaves of buildings, and playing about before them, make people think that several old ones attend one nest. They are often capricious in fixing on a nesting-place, beginning many edifices, and leaving them unfinished; but when once a nest is completed in a sheltered place, it serves for several seasons. Those which breed in a ready finished house, get the start in hatching of those that build new by 10 days or a fortnight. These industrious artificers are at their labours in the long days before four in the morning: when they fix their materials, they plaster them on with their chins, moving their heads with a quick vi-

bratory motion.—They dip and wash as they fly sometimes in very hot weather, but not so frequently as swallows. Martins love to frequent towns, especially if there are great lakes and rivers at hand. They are by far the least agile of the British hirundines: their wings and tails are short, and therefore they are not capable of such surprising turns, and quick and glancing evolutions as the swallow. Accordingly, they make use of a placid easy motion, in a middle region of the air, seldom mounting to any great height, and never sweeping long together over the surface of the ground or water. They do not wander far for food; but affect sheltered districts, over some lake, or under some hanging wood, or in some hollow vale, especially in windy weather. They breed the latest of all the swallow kind: in 1772 they had nestlings on to October the 21st, and are never without unfledged young as late as Michaelmas.—As the summer declines, the congregating flocks increase in numbers daily, by the constant accession of the second broods; till at last they swarm in myriads upon myriads round the villages on the Thames, darkening the face of the sky as they frequent the aits of that river, where they roost. They retire, the bulk of them I mean, in vast flocks together about the beginning of October: but have appeared of late years in a considerable flight in this neighbourhood, for one day or two as late as November the 3d and 6th, after they were supposed to have been gone for more than a fortnight. They therefore withdraw with us the latest of any species. Unless these birds are very short-lived indeed, or unless they do not return to the district where they are bred, they must undergo vast devastations some how, and some where; for the birds that return yearly bear no manner of proportion to the birds that retire."

7. The rufa, or rufous-bellied swallow, is of the same size with the former; and has the upper parts of the body of a glossy black; the under rufous, growing paler towards the vent: the forehead is whitish; and the bill and legs are dusky. These are found at Cayenne, and not unfrequently as far north as New-York. They build in houses, without any mixture of mud; fabricating the nest with moss, dried plants, and short bits of sticks, all united with a sort of gum, so as scarce to be broken, and lined with feathers; suspending it from the beams and rafters, sides of walls, and eaves of houses. It is sometimes a foot and a half in length; and is fixed by one of its sides, the opening being made near the bottom. The female lays four or five eggs; and the young go out as soon as their wings will support them.

8. The riparia, sand-martin, or shore-bird, is $4\frac{1}{2}$ th inches in length, with the whole upper parts of the body of a mouse-colour, the throat and under parts white, the bill and legs blackish. It is common about the banks of rivers and sand-pits, where it terebrates a round and regular hole in the sand or earth, which is serpentine, horizontal, and about two feet deep. At the inner end of this burrow does the bird deposit, in a good degree of safety, her rude nest, consisting of fine grasses and feathers, usually goose-feathers, very inartificially laid together. "Though at first (says Mr White) one would be disinclined to believe that this weak bird, with her soft and tender bill and claws, should ever be able to bore the stubborn

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born

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born sand-bank without entirely disabling herself; yet with these feeble instruments have I seen a pair of them make great dispatch; and could remark how much they had scooped that day by the fresh sand which ran down the bank, and was of a different colour from that which lay loose and bleached in the sun. In what space of time these little artists are able to mine and finish these cavities I have never been able to discover: but it would be a matter worthy of observation, where it falls in the way of any naturalist to make his remarks. This I have often taken notice of, that several holes of different depths are left unfinished at the end of summer. To imagine that these beginnings were intentionally made in order to be in the greater forwardness for next spring, is allowing perhaps too much foresight and *rerum prudentia* to a simple bird. May not the cause of these *latebræ* being left unfinished arise from their meeting in those places with strata too harsh, hard, and solid, for their purpose, which they relinquish, and go to a fresh spot that works more freely? Or may they not in other places fall in with a soil as much too loose and mouldering, liable to flounder, and threatening to overwhelm them and their labours? One thing is remarkable—that, after some years, the old holes are forsaken and new ones bored; perhaps because the old habitations grow foul and fetid from long use, or because they may so abound with fleas as to become untenable. This species of swallow moreover is strangely annoyed with fleas: and we have seen fleas, bed-fleas (*pulex irritans*), swarming at the mouths of these holes, like bees on the stools of their hives.

The sand-martin arrives much about the same time with the swallow; and lays, as she does, from four to six white eggs. But as this species is *cryptogame*, carrying on the business of nidification, incubation, and the support of its young in the dark, it would not be easy to ascertain the time of breeding, were it not for the coming forth of the broods, which appear much about the time, or rather somewhat earlier than those of the swallow. The nestlings are supported in common, like those of their congeners, with gnats and other small insects; and sometimes they are fed with *libellula* (dragon flies) almost as long as themselves. This *hirundo* is said to lay only once in a year, and to produce its young more early than the rest of its tribe: though from this last circumstance it would seem probable that they breed at least a second time like the house-martin and swallow. It does not always take pains to make an hole for a nest; frequently laying in cavities of quarries, and in hollows of trees, where it is convenient. When they happen to breed near hedges and enclosures, they are often dispossessed of their breeding holes by the house-sparrow, which is on the same account a fell adversary to house-martins. These *hirundines* are no songsters, but rather mute, making only a little harsh noise when a person approaches their nests. They seem not to be of a sociable turn, never with us congregating with their congeners in the autumn. They have a peculiar manner of flying; flitting about with odd jerks and vacillations, not unlike the motions of a butterfly. Doubtless the flight of all *hirundines* is influenced by and adapted to the peculiar sort of insects which furnish their food. Hence (says Mr White) it would be worth inquiry to examine what particular

genus of insects affords the principal food of each respective species of swallow. Hirundo.

9. The montana, or crag-swallow, is about the size of the martin, and in its upper plumage like the sand-martin: the under part of the body is rufous; the tail is scarcely forked; the legs are covered with grey down mixed with brown; the bill and the claws are black. These birds inhabit the rocks and crags about Savoy; arriving there the middle of April, and departing the 15th of August, for the most part; now and then some stragglers remain to the 10th of October. This species is also found in the mountains of Auvergne and Dauphine; and specimens have been received from Gibraltar.

10. The purpurea, or purple swallow, is in length seven inches, and the whole body is of a deep violet, very glossy: the quills and tail are of the same colour, but still deeper, and the last forked: the legs and claws are blackish; and the bill is black. The colour of the female is dusky brown, with a slight tinge of violet. This species is found in summer in Carolina and Virginia; coming in May, and retiring at the approach of winter. The common people are very fond of them; and make little conveniences of boards on the outsides of their houses for the birds to build in, like as is done for sparrows in England; being desirous to keep them near, as they are of much use in alarming the poultry of the approach of the hawk and other birds of prey; not only shrieking violently on the appearance of these enemies, but attacking them with all the efforts of our martins in Europe. See fig. 4.

11. The apus, or swift, is a large species, being near eight inches long, with an extent of wing near eighteen inches, though the weight of the bird is only one ounce. Their feet are so small, that the action of walking and rising from the ground is extremely difficult; so that nature has made it full amends, by furnishing it with ample means for an easy and continual flight. It is more on the wing than any other swallow; its flight is more rapid, and that attended with a shrill scream. It rests by clinging against some wall, or other apt body; from whence Klein styles this species *hirundo muraria*. It breeds under the eaves of houses, in steeples, and other lofty buildings; and makes its nest of grasses and feathers. The feet of this species are of a particular structure, all the toes standing forward: the least consists of only one bone; the others of an equal number, viz. two each; in which they differ from those of all other birds: a construction, however, nicely adapted to the purposes in which their feet are employed.

The swift is a summer inhabitant of these kingdoms. It comes the latest, and departs the soonest, of any of the tribe; not always staying to the middle of August, and often not arriving before the beginning of May. A pair of these birds were found adhering by their claws, and in a torpid state, in Feb. 1766, under the roof of Longnor-chapel, Shropshire; on being brought to a fire, they revived, and moved about the room.

The fabulous history of the *manucodiata*, or bird of paradise (says Mr Pennant), is, in the history of this species, in great measure verified. It was believed to have no feet; to live upon the celestial dew; to float perpetually on the atmosphere; and to perform all its functions in that element. The swift actually

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performs what has been in these enlightened times disapproved of the former, except the small time it takes in sleeping, and what it devotes to incubation; every other action is done on wing. The materials of its nest it collects either as they are carried about by the winds, or picks them up from the surface in its sweeping flight. Its food is undeniably the insects that fill the air. Its drink is taken in transient sips from the water's surface. Even its amorous rites are performed on high. Few persons who have attended to them in a fine summer's morning, but must have seen them make their aerial courses at a great height, encircling a certain space with an easy steady motion. On a sudden they fall into each others embraces, then drop precipitate with a loud shriek for numbers of yards. This is the critical conjuncture; and to be no more wondered at, than that insects (a familiar instance) should discharge the same duty in the same element.

The swift is a most alert bird, rising very early, and retiring to roost very late; and is on the wing in the height of summer at least sixteen hours. In the longest days it does not withdraw to rest till a quarter before nine in the evening, being the latest of all day birds. Just before they retire, whole groups of them assemble high in the air, and squeak, and shoot about with wonderful rapidity. But this bird is never so much alive as in sultry thundery weather, when it expresses great alacrity, and calls forth all its powers. In hot mornings several, getting together in little parties, dash round the steeples and churches, squeaking as they go in a very clamorous manner: these, by nice observers, are supposed to be males serenading their sitting hens; and not without reason, since they seldom squeak till they come close to the walls or eaves, and since those within utter at the same time a little inward note of complacency. When the hen has sat hard all day, she rushes forth just as it is almost dark, and stretches and relieves her weary limbs, and snatches a scanty meal for a few minutes, and then returns to her duty of incubation. Swifts, when wantonly and cruelly shot while they have young, discover a little lump of insects in their mouths, which they pouch and hold under their tongue. In general, as already observed, they feed in a much higher district than the other species; they also range to vast distances; since locomotion is no labour to them, who are endowed with such wonderful powers of wing. At some certain times in the summer, however, they have been observed hawking very low for hours together over pools and streams; and upon inquiring into the object of their pursuit that induced them to descend so much below their usual range, it has been found that they were taking *phryganeæ*, *ephemeræ*, and *libellulæ* (cadew-flies, may-flies, and dragon-flies), that were just emerged out of their aurelia state. It appeared then no longer a wonder that they should be so willing to stoop for a prey that afforded them such plentiful and succulent nourishment. — Swifts sometimes pursue and strike at hawks that come in their way; but not with that vehemence and fury that swallows express on the same occasion. They are out all day long in wet days, feeding about and disregarding still rain: from whence two things may be gathered; first, that many insects abide high in the air, even in rain; and next, that the feathers of these birds must be well preened to resist so much wet.

Windy weather, and particularly with heavy showers, they dislike; and on such days withdraw, and are scarce ever seen. — There is a circumstance respecting the colour of swifts (Mr White remarks), which seems not to be unworthy our attention. When they arrive in the spring, they are all over of a glossy dark foot-colour, except their chins, which are white; but, by being all day long in the sun and air, they become quite weather-beaten and bleached before they depart, and yet they return glossy again in the spring. Now, if they pursue the sun into lower latitudes, as some suppose, in order to enjoy a perpetual summer, why do they not return bleached? Do they not rather perhaps retire to rest for a season, and at that juncture moult and change their feathers, since all other birds are known to moult soon after the season of breeding?

“Swifts (continues our author) are very anomalous in many particulars, dissenting from all their congeners not only in the number of their young, but in breeding once in a summer; whereas all the other British hirundines breed invariably twice. It is past all doubt that swifts can breed but once, since they withdraw in a short time after the flight of their young, and some time before their congeners bring out their second broods. We may here remark, that, as swifts breed but once in a summer, and only two at a time, and the other hirundines twice, the latter, who lay from four to six eggs, increase at an average five times as fast as the former. But in nothing are swifts more singular than in their early retreat. They retire, as to the main body of them, by the tenth of August, and sometimes a few days sooner: and every straggler invariably withdraws by the twentieth, while their congeners, all of them, stay till the beginning of October; many through all that month, and some occasionally to the beginning of November. This early retreat is mysterious and wonderful, since that time is often the sweetest season in the year. But, what is more extraordinary, they begin to retire still earlier in the most southerly parts of Andalusia, where they can be no ways influenced by any defect of heat; or, as one might suppose, defect of food. Are they regulated in their motions with us by a failure of food, or by a propensity to moulting, or by a disposition to rest after so rapid a life, or by what? This is one of those incidents in natural history that not only baffles our searches, but almost eludes our guesses!”

Swifts never perch on trees or roofs, and so never congregate with their congeners. They are fearless while haunting their nesting places, and are not to be scared with a gun; and are often beaten down with poles and cudgels as they stoop to go under the eaves. Mr White informs us, that having untiled part of a roof over the nest of a swift, the dam notwithstanding sat in the nest: so strongly was she affected by natural *στοργή* for her brood, which she supposed to be in danger, that, regardless of her own safety, she would not stir, but lay sullenly by them, permitting herself to be taken in hand. Swifts are much infested with those pests to the genus called *hippoboscæ hirundinis*; and often wriggle and scratch themselves, in their flight, to get rid of that clinging annoyance. And young ones, over-run with these insects, are sometimes found under their nests, fallen to the ground; the number of vermin rendering their abode insupportable.

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Swifts are no songsters, and have only one harsh screaming note; yet there are ears to which it is not displeasing, from an agreeable association of ideas, since that note never occurs but in the most lovely summer weather. They never settle on the ground but through accident; neither can they walk, but only crawl; but they have a strong grasp with their feet, by which they cling to walls, as already noticed. Their bodies being flat, they can enter a very narrow crevice; and where they cannot pass on their bellies, they will turn up edgewise.—In London a party of swifts frequents the tower, playing and feeding over the river just below the bridge: others haunt some of the churches of the borough next the fields; but do not venture, like the house-martin, into the close crowded part of the town. The Swedes have bestowed a very pertinent name on this swallow, calling it *ring swala*, from the perpetual rings or circles that it takes round the scene of its nidification.—As these birds are apt to catch at every thing on the wing, many have taken them by a bait of a cockchafer tied to a thread, which they have swallowed as freely as a fish theirs. In the Isle of Zant, the boys are said to get on an elevated place, and merely with a hook baited with a feather, have caught five or six dozen of them in a day. Besides our island, the swift is known to inhabit the whole of the European continent; and has also been noticed at the Cape of Good Hope, and Carolina in North America. Hence, most likely, a general inhabitant of both the old and new continents.

12. The ambrosiaca, or ambergris swallow, is about the size of a wren, with grey plumage and a very forked tail; the bill is blackish, and the legs are brown. It inhabits Senegal, and is said to smell very strong of ambergris.

13. The pelasgia, or aculeated swallow, is somewhat less than our chimney-swallow: its plumage is brown, but at the throat whitish, and all the tail-feathers are terminated by a bare pointed shaft. It inhabits Carolina and Virginia in the summer time, and builds in chimneys. See fig. 3.

14. The melba, or white-bellied swift, is in length $8\frac{1}{2}$ inches, and weighs two ounces five drams: the bill is half an inch, somewhat bent, and black: the upper parts of the body are of a grey brown; the wings and tail deepest, with a gloss of red and green in some lights: the throat, breast, and belly, are white; on the neck is a collar of grey brown, mixed with blackish: the sides are dusky, and white mixed; lower part of the belly, and under tail-coverts, the same as the back: the legs are flesh-coloured, and covered with feathers on the fore part and inside: all the toes are placed forward, as in our swift. This bird inhabits the mountainous parts of Spain; building in the holes of rocks. It is found also on the borders of the Rhone, in Savoy, the isle of Malta, Alps of Switzerland, and rock of Gibraltar. It comes into Savoy the beginning of April, and frequents the ponds and marshes for 15 or 20 days; after which it retires to the mountainous parts to breed. It flies higher than our swift; but feeds on the same food, and its flesh is accounted a delicate morsel. This species is not numerous. Scopoli says it builds on the summit of the mountains of Tyrol.

15. The cayennensis, or white-coloured swallow, is

about the size of the martin: the head and bill are black; the chin and throat white, passing from the last in a narrow collar round the neck: between the bill and eye is a streak of white, which forks off into two; one passing a little above and the other a little way beneath the eye: the rest of the plumage is black, with a gloss of violet; but the greater coverts, nearest the body, are brown, edged with white: the quills and tail are black; the last forked: the legs are black; and all the four toes placed before as in our swift, and covered with feathers to the claws.—This bird makes its nest in the houses at Cayenne. It is of a large size, in shape of a truncated cone; five inches one way by three the other, and nine inches in length. It is composed of the down of dogs-bane, well wove together; the cavity divided obliquely about the middle, lengthways, by a partition, which spreads itself over that part of the nest where the eggs lie, which is pretty near the base: a small parcel of the same soft down, forming a kind of plug, is placed over the top, serving to keep the young brood from the impression of the air; from which we may suppose them to be very tender.

16. The erythrocephala, or red-headed swallow, has a red head, with a short flat dusky bill: the back is dusky, the feathers edged with white: the under parts of the body are white, the tail coverts pale brown: the wings are both dusky; as is also the tail, which is a little forked. It inhabits India; and is only the size of a small humming-bird.

17. The nigra, or black swallow, measures near six inches in length: the colour of the bird is wholly black, and the tail is forked. It inhabits St Domingo and Cayenne; but is not numerous. It is often seen to perch on dead trees; and only inhabits dry savannas inland. It scoops out a hole in the earth, half a foot in length, the mouth of it very small, so as just to permit entrance: in this cavity it constructs the nest and rears the young.

18. The dominicensis, or St Domingo swallow, is 7 inches in length, and wholly black, with the gloss of polished steel, except the belly and under tail coverts, which are white: the tail is very little forked: the legs, bill, and claws are brown. It inhabits St Domingo, and other of the West India islands, in May, June, and July; and is said to imitate a lark in its song.

To this article we may not improperly subjoin the following paper (from the Gentleman's Magazine) on the utility of encouraging the breed of swallows, swifts, and martins. "The advantages that accrue to man, from the docility with which the domesticated animals accommodate themselves to his uses, are obvious. But there are others, who attend on him of their own accord, whose beneficial exertions are little known or observed. Among these I shall at present only notice the family of swallows (*hirundines*); of the four kinds of which bird found in our island three attach themselves to his dwelling, as if peculiarly solicitous for his welfare. This connection seems so reciprocal, that where men do not inhabit, few swallows can find proper conveniences for their summer-residences; and as their food consists wholly of insects, the most diligent inquirer hath not been able to discover that they injure in the slightest degree the productions of the field or garden; a circumstance nearly singular

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Hirundo, singular to these birds. The charge which Virgil, copying the Grecian writers, brings against them, of killing bees, is in this country groundless, and I apprehend it to be so in every other:

" Absint—

Meropisque aliaque volucres,
Et manibus Progne pectus signata cruentis;
Omnia nam late vastant, ipsaque volantes
Ore ferunt, dulcem nidis immitibus escam."

Georg. l. 4. v. 23.

For the mouths of the swallow tribe are by no means adapted to catch stinging insects with impunity. The birds who prey on bees have a long extended bill constructed for that purpose, very different from that of the swallow.

" By the myriads of insects which every single brood of swallows destroys in the course of a summer, they defend us in a great measure from the personal and domestic annoyance of flies and gnats; and, what is of infinitely more consequence, they keep down the numbers of our minute enemies, who, either in the grub or winged state, would otherwise render the labours of the husbandman fruitless. Since then swallows are guardians of our corn, they should every where be protected by the same popular veneration which in Egypt defends the Ibis and the stork in Holland. We more frequently hear of unproductive harvests on the Continent than in this country; and it is well known that swallows are caught and sold as food in the markets of Spain, France, and Italy. When this practice has been very general and successful, I have little doubt that it hath at times contributed to the scarcity of corn. In England we are not driven to such resources to furnish our tables. But what apology can be made for those, and many there are, whose education and rank should have taught them more innocent amusements, who wantonly murder swallows, under the idle pretence of improving their skill in shooting game? Setting aside the cruelty of starving whole nests of young by killing the dam; they who follow this barbarous diversion would do well to reflect, that by every swallow they kill, they assist blights, mildews, and vermin, in causing a scarcity of bread. Every lord of a manor should restrain his game-keeper from this execrable practice; nor should he permit any person to sport on his lands who does not refrain from it. For my part, I am not ashamed to own that I have tempted martins to build around my house, by fixing escallop shells, in places convenient for their pendant beds and procreant cradles; and have been pleased to observe with what caution the little architect raised a buttress under each shell before he ventured to form his nest on it.

" What has induced me to send you these strictures at this time, are the accounts of the ravages committed on the cultivation of corn in the United States of North America, by an insect called the *Hessian-Fly*. (See the article *HESSIAN-Fly*.) How far there is danger of this desolating scourge being imported into this country by the admission of American wheat, I must leave to abler entomologists to decide. But that this destructive insect should, as hath lately been asserted, totally disappear in one season, after having for a number of years successively laid waste wide extended districts, is a phenomenon hardly to be assented to by

those who have turned their minds to inquiries of this sort. *Hirundo*
||
Hispania.

" Might I not here enlarge on the importance of researches into the works of the creation, when we see statesmen, as in the present instance, making solemn applications to those who are studious of nature, requesting their direction how to avoid the calamity apprehended from a fly? And may we not then add, that the minutest observations of this kind are only deemed trivial by the indolent and uninformed?

" I recollect but a single complaint against the swallow, and that is made by Anacreon, Od. 12. who bitterly reproaches this bird for disturbing him by its twittering while he was dozing away the intoxication of the preceding night. Yet, had the poet been temperate, like Milton, he would with pleasure have arisen from his bed at the charm of earliest birds.

" With what joy the Grecians welcomed the return of the swallow, appears by the very ancient carol preserved by Athenæus; of which the following is a translation:—

The swallow! the swallow! she does with her bring
Soft seasons and all the delights of the spring:
The swallow! the swallow! we're sure we are right,
For her back is all black, and her belly all white.
From your stores, ye good housewives, produce, if you please,
Lumps of figs, jugs of wine, and some wheat and some cheese.
With some hen eggs the swallow will well be content.
Must we go then, or shall we have any thing sent?
We will not allow you to do as you choose,
To give or give not, to comply or refuse;
But will certainly take from its hinges the door,
Or bear off the good dame as she sits on the floor;
She is little and light, we can manage her sure. }
Open, open the door to the swallow—for we
Are playful young children, not men—you may see.

HISPA, in zoology; a genus of insects belonging to the coleoptera order, the characters of which are these: The antennæ are fusiform, growing gradually larger from each extremity towards the middle; and are situated between the eyes: the thorax and elytra are covered with protuberances or spines. The larva of this insect seems to be yet wholly unknown. There are but two species of the perfect animal met with in Europe; one of which, the *atra*, is found in Britain, and is all over of a deep unpolished black, and has the upper part of its body entirely covered with long and strong spines, which render it bristly like the shell of a chestnut. There is even a spine at the base of the antennæ; the thorax has a row set transversely, which are forked; and the elytra are furnished with a very great number that are single. Its being thus covered with spines, makes it resemble a hedge-hog in miniature. It is rather hard to catch, letting itself fall down on the ground as soon as approached. It bears its antennæ upright before it. Plate
CCXXXV.

HISPALIS a town of Bætica, in the Farther Spain; an ancient mart or trading town on the Bætis, navigable quite up to it for ships of burthen, and thence to Corduba for river barges. Called *Colonia Romulensis*. It has also a *conventus juridicus*, a court of justice, or assizes, (Pliny). Now called *Seville*. W. Long. 6°. N. Lat. 37°.

HISPANIA, called *Hesperia Ultima*, (Horace), because the westmost part of Europe; also *Iberia*, from the river Iberus. Its name *Hispania*, or *Spania*, (Greek),

Hispaniola. (Greek), is of Phœnician original, from its great number of rabbits: the Phœnicians, who settled several colonies on the coast calling it *Spanjab* from these animals. It has the sea on every side, except on that next to Gaul, from which it is separated by the Pyrenees. The Romans at first divided it into the Farther and Hither Spain, under two prætors. In that state it continued down to Augustus; who divided the Farther Spain into Bætica, which he left to the people to be governed by a pro consul; and into Lusitania, which he added to his own provinces; calling the Hither Spain *Tarraconensis*. *Hispania* was a country celebrated for its fertility, of which it has greatly fallen short in modern times. The people were of a warlike turn, (Strabo); and their bodies being formed for hardships and labour, they ever preferred war to peace, and were remarkably prodigal of life (Justin, Sil. Italicus). Spain produced several great men, both in a literary and a political capacity. See SPAIN.

HISPANIOLA, called also St DOMINGO, the largest of the Antilles or Caribbee islands, extending about 420 miles from east to west, and 120 in breadth from north to south; lying between 17° 37' and 20° of N. Lat. and between 67° 35' and 74° 15' W. Long. The climate is hot, but not reckoned unwholesome; and some of the inhabitants are said to arrive at the age of 120. It is sometimes refreshed by breezes and rains; and its salubrity is likewise in a great measure owing to the beautiful variety of hills and valleys, woods and rivers, which every where present themselves. It is indeed reckoned by far the finest and most pleasant island of the Antilles, as being the best accommodated to all the purposes of life when duly cultivated.

This island, famous for being the earliest settlement of the Spaniards in the new world, was at first in high estimation for the quantity of gold it supplied: this wealth diminished with the inhabitants of the country, whom they obliged to dig it out of the bowels of the earth; and the source of it was entirely dried up, when they were exterminated, which was quickly done, by a series of the most shocking barbarities that ever disgraced the history of any nation. Benzoni relates, that of two millions of inhabitants, contained in the island when discovered by Columbus in 1492, scarce 153 were alive in 1545. A vehement desire of opening again this source of wealth inspired the thought of getting slaves from Africa; but, besides that these were found unfit for the labours they were destined to, the multitude of mines, which then began to be wrought on the continent, made those of *Hispaniola* no longer of any importance. An idea now suggested itself, that their negroes, which were healthy, strong, and patient, might be usefully employed in husbandry; and they adopted, through necessity, a wise resolution, which, had they known their own interest, they would have embraced by choice.

The produce of their industry was at first extremely small, because the labourers were few. Charles V. who, like most sovereigns, preferred his favourites to every thing, had granted an exclusive right of the slave-trade to a Flemish nobleman, who made over his privilege to the Genoese. Those avaricious republicans conducted this infamous commerce as all mono-

polies are conducted; they resolved to sell dear, and they sold but few. When time and competition had fixed the natural and necessary price of slaves, the number of them increased. It may easily be imagined, that the Spaniards, who had been accustomed to treat the Indians as beasts, did not entertain a higher opinion of these negro Africans, whom they substituted in their place. Degraded still farther in their eyes by the price they had paid for them, even religion could not restrain them from aggravating the weight of their servitude. It became intolerable, and these wretched slaves made an effort to recover the unalienable rights of mankind. Their attempt proved unsuccessful; but they reaped this benefit from their despair, that they were afterwards treated with less inhumanity.

This moderation (if tyranny cramped by the apprehension of revolt can deserve that name) was attended with good consequences. Cultivation was pursued with some degree of success. Soon after the middle of the 16th century, the mother country drew annually from this colony ten millions weight of sugar, a large quantity of wood for dying, tobacco, cocoa, cassia, ginger, cotton, and peltry in abundance. One might imagine, that such favourable beginnings would give both the desire and the means of carrying them further; but a train of events, more fatal each than the other, ruined these hopes.

The first misfortune arose from the depopulation of the island. The Spanish conquests on the continent should naturally have contributed to promote the success of an island, which nature seemed to have formed to be the centre of that vast dominion arising around it, to be the staple of the different colonies. But it fell out quite otherwise: on a view of the immense fortunes raising in Mexico, and other parts, the richest inhabitants of *Hispaniola* began to despise their settlements, and quitted the true source of riches, which is on the surface of the earth, to go and ransack the bowels of it for veins of gold, which are quickly exhausted. The government endeavoured in vain to put a stop to this emigration; the laws were always either artfully eluded, or openly violated.

The weakness, which was a necessary consequence of such a conduct, leaving the coasts without defence, encouraged the enemies of Spain to ravage them. Even the capital of this island was taken and pillaged by that celebrated English sailor, Sir Francis Drake. The cruizers of less consequence contented themselves with intercepting vessels in their passage through those latitudes, the best known at that time of any in the new world. To complete these misfortunes, the Castilians themselves commenced pirates. They attacked no ships but those of their own nation; which were more rich, worse provided, and worse defended, than any others. The custom they had of fitting out ships clandestinely, in order to procure slaves, prevented them from being known; and the assistance they purchased from the ships of war, commissioned to protect the trade, insured to them impunity.

The foreign trade of the colony was its only resource in this distress; and that was illicit: but as it continued to be carried on, notwithstanding the vigilance of the governors, or, perhaps, by their connivance, the

Hispaniola. the policy of an exasperated and short-sighted court exerted itself in demolishing most of the sea-ports, and driving the miserable inhabitants into the inland country. This act of violence threw them into a state of dejection; which the incursions and settlement of the French on the island afterwards carried to the utmost pitch. The latter, after having made some unsuccessful attempts to settle on the island, had part of it yielded to them in 1697, and now enjoy by far the best share.

Spain, totally taken up with that vast empire which she had formed on the continent, used no pains to dissipate this lethargy. She even refused to listen to the solicitations of her Flemish subjects, who earnestly pressed that they might have permission to clear those fertile lands. Rather than run the risk of seeing them carry on a contraband trade on the coasts, she chose to bury in oblivion a settlement which had been of consequence, and was likely to become so again.

This colony, which had no longer any intercourse with the mother-country but by a single ship, of no great burthen, that arrived from thence every third year, consisted, in 1717, of 18,410 inhabitants, including Spaniards, Mestees, Negroes, or Mulattoes. The complexion and character of these people differed according to the different proportions of American, European, and African blood they had received from that natural and transient union which restores all races and conditions to the same level. These demi-savages, plunged in the extreme of sloth, lived upon fruits and roots, dwelt in cottages without furniture, and most of them without clothes. The few among them, in whom indolence had not totally suppressed the sense of decency and taste for the conveniences of life, purchased clothes of their neighbours the French in return for their cattle, and the money sent to them for the maintenance of two hundred soldiers, the priests, and the government. It doth not appear that the company, formed

at Barcelona in 1757, with exclusive privileges for the re-establishment of St Domingo, hath as yet made any considerable progress. They send out only two small vessels annually, which are freighted back with six thousand hides, and some other commodities of little value. See *St Domingo*.

HISTER, in zoology; a genus of the coleoptera order of insects. The first articulation of the antennæ is compressed and curved; the last is considerably larger than the others, and appears to be a solid knob: the head is drawn within the body; the mouth is forcipated; the elytra are shorter than the body; and the fore-legs are dentated. The body of these creatures is polished and very shining, and their form almost square; the thorax large, and highly polished: anteriorly it is made with a slope, in the cavity of which is lodged the head, the position of which is often only discovered by the projection of the maxillæ; for the head, for the most part, is so withdrawn under the thorax, that the insect looks as if it had none. The elytra are as if it were cut off towards the extremity, and do not cover the whole of the abdomen. They are extremely smooth, and only have a few striæ, scarce perceptible, situated chiefly towards their outward side. Lastly, the hinder part of the abdomen, which projects beyond the elytra, is round and blunt. These insects are sometimes found in cow-dung, and often on sand. They vary prodigiously in size; but differ very little either in form or colour, they being all very dark. The larvæ, as well as the perfect insects, are frequently met with in the dung of horses, cows, &c.

HISTORIOGRAPHER, a professed historian, or writer of history. See the next article.

The historiographer to his majesty is an officer under the lord chamberlain; his salary 200*l.* *per annum*. There is an office of the same kind in Scotland, with the same salary.

Hister,
Historio-
grapher.

Plate
CCXXXV.

H I S T O R Y.

HISTORY, in general, signifies an account of some remarkable facts which have happened in the world, arranged in the true order in which they actually took place, together with the causes to which they were owing, and the different effects they have produced, as far as can be discovered.—The word is Greek, *ἱστορία*; and literally denotes a search of curious things, or a desire of knowing, or even a rehearsal of things we have seen; being formed from the verb *ἵστω*, which properly signifies to know a thing by having seen it. But the idea is now much more extensive, and is applied to the knowledge of things taken from the report of others. The origin is from the verb *ἵστω*, “I know;” and hence it is, that among the ancients several of their great men were called *polyhistores*, i. e. persons of various and general knowledge.

Sometimes, however, the word history is used to signify a description of things, as well as an account of facts. Thus Theophrastus calls his work, in which he has treated of the nature and properties of plants, an *history of plants*; and we have a treatise of Aristotle, N^o 154.

intituled an *history of animals*; and to this day the description of plants, animals, and minerals, are called by the general name of *natural history*.

But what chiefly merits the name of history, and what is here considered as such, is an account of the principal transactions of mankind since the beginning of the world; and which naturally divides itself into two parts, namely, *civil* and *ecclesiastical*. The first contains the history of mankind in their various relations to one another, and their behaviour, for their own emolument, or that of others, in common life; the second considers them as acting, or pretending to act, in obedience to what they believe to be the will of the Supreme Being.—Civil history, therefore, includes an account of all the different states that have existed in the world, and likewise of those men who in different ages of the world have most eminently distinguished themselves either for their good or evil actions. This last part of civil history is usually termed *BIOGRAPHY*.

History is now considered as a very considerable branch of polite literature: few accomplishments are more valued than an accurate knowledge of the histo-

ric



HUNGARY
with
TURKEY
in
EUROPE

W. H. Smith & Co. London

A. Bell & Co. London

Civil History. ries of different nations; and scarce any literary production is more regarded than a well-written history of any nation.

² Of the study of history.

With regard to the study of history, we must consider, that all the revolutions which have happened in the world, have been owing to two causes. 1. The connections between the different states existing together in the world at the same time, or their different situations with regard to one another; and, 2. The different characters of the people who in all ages constituted these states, their different geniuses and dispositions, &c. by which they were either prompted to undertake such and such actions of themselves, or were easily induced to it by others. The person who would study history, therefore, ought in the first place to make himself acquainted with the state of the world in general in all different ages; what nations inhabited the different parts of it; what their extent of territory was; at what particular time they arose, and when they declined. He is then to inform himself of the various events which have happened to each particular nation; and, in so doing, he will discover many of the causes of those revolutions, which before he only knew as facts. Thus, for instance, a person may know the Roman history from the time of Romulus, without knowing in the least why the city of Rome happened to be built at that time. This cannot be understood without a particular knowledge of the former state of Italy, and even of Greece and Asia; seeing the origin of the Romans is commonly traced as high as Æneas, one of the heroes of Troy. But when all this is done, which indeed requires no small labour, the historian hath yet to study the genius and dispositions of the different nations, the characters of those who were the principal directors of their actions, whether kings, ministers, generals, or priests; and when this is accomplished, he will discover the causes of those transactions in the different nations which have given rise to the great revolutions above mentioned: after which, he may assume the character of one who is perfectly versed in history.

The first *outline* of history, as it may be called, is most easily obtained by the inspection of an historical chart; and that subjoined to the present treatise will answer the purpose as well as any. Along with this it will be proper to peruse a short abridgement of general history, from the creation of the world to the present time; but in this way there have been but very few attempts attended with any tolerable success. The following is collected from respectable authorities, and may serve to help the ideas of the reader on this subject.

SECT. I. *Civil History.*

HISTORY, though seemingly incapable of any natural division, will yet be found, on a nearer inspection, to resolve itself into the following periods, at each of which a great revolution took place, either with regard to the whole world, or a very considerable part of it. 1. The creation of man. 2. The flood. 3. The beginning of profane history, i. e. when all the fabulous relations of heroes, demi-gods, &c. were expelled from historical narrations, and men began to relate facts with some regard to truth and credibility.

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4. The conquest of Babylon by Cyrus, and the destruction of the Babylonian empire. 5. The reign of Alexander the Great, and the overthrow of the Persian empire. 6. The destruction of Carthage by the Romans, when the latter had no longer any rival capable of opposing their designs. 7. The reign of the emperor Trajan, when the Roman empire was brought to its utmost extent. 8. The division of the empire under Constantine. 9. The destruction of the western empire by the Heruli, and the settlement of the different European nations. 10. The rise of Mahomet, and the conquests of the Saracens and Turks. 11. The crusades, and all the space intervening between that time and the present.

Concerning the number of years which have elapsed since the creation of the world, there have been many disputes. The compilers of the Universal History determine it to have taken place in the year 4305 B. C. so that, according to them, the world is now in the 6096th year of its age. Others think it was created only 4000 years B. C. so that it hath not yet attained its 6000th year. Be this as it will, however, the whole account of the creation rests on the truth of the Mosaic history; and which we must of necessity accept, because we can find no other which does not either abound with the grossest absurdities, or lead us into absolute darkness. The Chinese and Egyptian pretensions to antiquity are so absurd and ridiculous, that the bare reading must be a sufficient confutation of them to every reasonable person. See the articles CHINA and EGYPT. Some historians and philosophers are inclined to discredit the Mosaic accounts, from the appearances of volcanoes, and other natural phenomena: but their objections are by no means sufficient to invalidate the authority of the sacred writings; not to mention that every one of their own systems is liable to insuperable objections. See the article EARTH. It is therefore reasonable for every person to accept of the Mosaic account of the creation as truth: but an historian is under an absolute necessity of doing it, because, without it, he is quite destitute of any standard or scale by which he might reduce the chronology of different nations to any agreement; and, in short, without receiving this account as true, it would be in a manner impossible at this day to write a general history of the world.

1. The transactions during the first period, viz. from the creation to the flood, are very much unknown, nothing indeed being recorded of them but what is to be found in the first six chapters of Genesis. In general, we know, that men were not at that time in a savage state; they had made some progress in the arts, had invented music, and found out the method of working metals. They seem also to have lived in one vast community, without any of those divisions into different nations which have since taken place, and which evidently proceeded from the confusion of languages. The most material part of their history, however, is, that having once begun to transgress the divine commands, they proceeded to greater and greater lengths of wickedness, till at last the Deity thought proper to send a flood on the earth, which destroyed the whole human race except eight persons, viz. Noah and his family. This terrible catastrophe happened, according to the Hebrew copy of the Bible, 1656 years after the

Civil History.

⁴ Mosaic account of the creation the only probable one.

⁵ History from the creation to the flood.

³ Civil history how divided.

Civil
History.6
From the
flood to the
beginning
of profane
history.* See
Ararat.7
Nations de-
scended
from Ja-
phet.8
From Shem9
From Ham

the creation; according to the Samaritan copy, 1307. For the different conjectures concerning the natural causes of the flood, see the article DELUGE.

2. For the history of the second period we must again have recourse to the Scriptures, almost as much as for that of the first. We now find the human race reduced to eight persons possessed of nothing but what they had saved in the ark, and the whole world to be stored with animals from those which had been preserved along with these eight persons. In what country their original settlement was, no mention is made. The ark is supposed to have rested on Mount Ararat in Armenia*; but it is impossible to know whether Noah and his sons made any stay in the neighbourhood of this mountain or not. Certain it is, that, some time after, the whole or the greatest part of the human race were assembled in Babylonia, where they engaged in building a tower. This gave offence to the Deity; so that he punished them by confounding their language; whence the division of mankind into different nations.

According to a common opinion, Noah when dying left the whole world to his sons, giving Asia to Shem, Africa to Ham, and Europe to Japhet. But this hath not the least foundation in Scripture. By the most probable accounts, Gomer the son of Japhet was the father of the Gomerians or Celtes; that is, all the barbarous nations who inhabited the northern parts of Europe under the various names of *Gauls*, *Cimbrians*, *Goths*, &c. and who also migrated into Spain, where they were called *Celtiberians*. From Magog, Meshech, and Tubal, three of Gomer's brethren, proceeded the Scythians, Sarmatians, Tartars, and Moguls. The three other sons of Japhet, Madai, Javan, and Tiras, are said to have been the fathers of the Medes, the Ionians, Greeks, and Thracians.

The children of Shem were Elam, Ashur, Arphaxad, Lud, and Aram. The first settled in Persia, where he was the father of that mighty nation: The descendants of Ashur peopled Assyria, (now *Curdestan*): Arphaxad settled in Chaldaea. Lud is supposed by Josephus to have taken up his residence in Lydia; though this is much controverted. Aram, with more certainty, is thought to have settled in Mesopotamia and Syria.

The children of Ham were Cush, Mizraim, Phut, and Canaan. The first is thought to have remained in Babylonia, and to have been king of the south-eastern parts of it afterwards called *Khuzestan*. His descendants are supposed to have removed into the eastern parts of Arabia; from whence they by degrees migrated into the corresponding part of Africa. The second peopled Egypt, Ethiopia, Cyrenaica, Libya, and the rest of the northern parts of the same continent. The place where Phut settled is not known: but Canaan is universally allowed to have settled in Phoenicia; and to have founded those nations who inhabited Judea, and were afterwards exterminated by the Jews.

Almost all the countries of the world, at least of the eastern continent, being thus furnished with inhabitants, it is probable that for many years there would be few or no quarrels between the different nations. The paucity of their numbers, their distance from one

another, and their diversity of language, would contribute to keep them from having much communication with each other. Hence, according to the different circumstances in which the different tribes were placed, some would be more civilized and others more barbarous. In this interval, also, the different nations probably acquired different characters, which afterwards they obstinately retained, and manifested on all occasions; hence the propensity of some nations to monarchy, as the Asiatics, and the enthusiastic desire of the Greeks for liberty and republicanism, &c.

The beginning of monarchical government was very early; Nimrod the son of Cush having found means to make himself king of Babylonia. In a short time Ashur emigrated from the new kingdom; built Nineveh, afterwards capital of the Assyrian empire; and two other cities called *Rezen* and *Rehoboth*, concerning the situation of which we are now much in the dark. Whether Ashur at this time set up as a king for himself, or whether he held these cities as vassal to Nimrod, is now unknown. It is probable, however, that about the same time various kingdoms were founded in different parts of the world; and which were great or small according to different circumstances. Thus the scripture mentions the kings of Egypt, Gerar, Sodom, Gomorrah, &c. in the time of Abraham; and we may reasonably suppose, that these kings reigned over nations which had existed for some considerable time before.

The first considerable revolution we read of is the migration of the Israelites out of Egypt, and their establishment in the land of Canaan. For the history of these transactions we must refer to the Old Testament, where the reader will see that it was attended with the most terrible catastrophe to the Egyptians, and with the utter extermination of some nations, the descendants of Ham, who inhabited Judaea. Whether the overthrow of Pharaoh in the Red Sea could affect the Egyptian nation in such a manner as to deprive them of the greatest part of their former learning, and to keep them for some ages after in a barbarous state, is not easily determined; but unless this was the case, it seems exceedingly difficult to account for the total silence of their records concerning such a remarkable event, and indeed for the general confusion and uncertainty in which the early history of Egypt is involved. The settlement of the Jews in the promised land of Canaan is supposed to have happened about 1491 B. C.

For near 200 years after this period we find no accounts of any other nations than those mentioned in scripture. About 1280 B. C. the Greeks began to make other nations feel the effects of that enterprising and martial spirit for which they were so remarkable, and which they had undoubtedly exercised upon one another long before. Their first enterprise was an invasion of Colchis (now *Mingrelia*), for the sake of the golden fleece. Whatever was the nature of this expedition, it is probable they succeeded in it; and it is likewise probable, that it was this specimen of the riches of Asia which inclined them so much to Asiatic expeditions ever after. All this time we are totally in the dark about the state of Asia and Africa, except in so far as can be conjectured from scripture. The ancient empires of Babylon, Assyria, and Persia, probably

Civil
History.

10

Foundation
of the king-
dom of
Babylonia,
Assyria, &c.

11

Migration
of the
Israelites
from Egypt

12

History of
the Greeks.

Civil
History.

bably still continued in the former continent, and Egypt and Ethiopia seem to have been considerable kingdoms in the latter.

About 1184 years B. C. the Greeks again distinguished themselves by their expedition against Troy, a city of Phrygia Minor; which they plundered and burnt, massacring the inhabitants with the most unrelenting cruelty. Æneas, a Trojan prince, escaped with some followers into Italy, where he became the remote founder of the Roman empire. At this time Greece was divided into a number of small principalities, most of which seem to have been in subjection to Agamemnon king of Mycene. In the reign of Atreus, the father of this Agamemnon, the Heraclidæ, or descendants of Hercules, who had been formerly banished by Eurystheus, were again obliged to leave this country. Under their champion Hyllus they claimed the kingdom of Mycenæ as their right, pretending that it belonged to their great ancestor Hercules, who was unjustly deprived of it by Eurystheus*. The controversy was decided by single combat; but Hyllus being killed, they departed, as had been before agreed, under a promise of not making any attempt to return for 50 years. About the time of the Trojan war, also, we find the Lydians, Mysians, and some other nations of Asia Minor, first mentioned in history. The names of the Greek states mentioned during this uncertain period are, 1. Sicyon. 2. Leleg. 3. Messina. 4. Athens. 5. Crete. 6. Argos. 7. Sparta. 8. Pelasgia. 9. Theffaly. 10. Attica. 11. Phocis. 12. Locris. 13. Ozela. 14. Corinth. 15. Eleufina. 16. Elis. 17. Pilus. 18. Arcadia. 19. Egina. 20. Ithaca. 21. Cephalone. 22. Phthia. 23. Phocidia. 24. Ephyra. 25. Eolia. 26. Thebes. 27. Calista. 28. Etolia. 29. Doloppa. 30. Oechalia. 31. Mycenæ. 32. Eubœa. 33. Mynia. 34. Doris. 35. Phera. 36. Iola. 37. Trachina. 38. Thrasprocia. 39. Myrmidonia. 40. Salamine. 41. Scyros. 42. Hyperia or Melité. 43. The Vulcanian isles. 44. Megara. 45. Epirus. 46. Achaia. 47. The isles of the Egean Sea. Concerning many of these we know nothing besides their names: the most remarkable particulars concerning the rest may be found under their respective articles.

13
Of the
Jews.

About 1048 B. C. the kingdom of Judea under king David approached its utmost extent of power. In its most flourishing condition, however, it never was remarkable for the largeness of its territory. In this respect it scarce exceeded the kingdom of Scotland; though, according to the accounts given in scripture, the magnificence of Solomon was superior to that of the most potent monarchs on earth. This extraordinary wealth was owing partly to the spoils amassed by king David in his conquests over his various enemies, and partly to the commerce with the East Indies which Solomon had established. Of this commerce he owed his share to the friendship of Hiram king of Tyre, a city of Phœnicia, whose inhabitants were now the most famed for commerce and skill in maritime affairs of any in the whole world.

After the death of Solomon, which happened about 975 B. C. the Jewish empire began to decline, and soon after many powerful states arose in different parts of the world. The disposition of mankind in general seems now to have taken a new turn, not easily ac-

counted for. In former times, whatever wars might have taken place between neighbouring nations, we have no account of any extensive empire in the whole world, or that any prince undertook to reduce far distant nations to his subjection. The empire of Egypt indeed is said to have been extended immensely to the east, even before the days of Sesostris. Of this country, however, our accounts are so imperfect, that scarce any thing can be concluded from them. But now, as it were all at once, we find almost every nation aiming at universal monarchy, and refusing to set any bounds whatever to its ambition. The first shock given to the Jewish grandeur was the division of the kingdom into two through the imprudence of Rehoboam. This rendered it more easily a prey to Shishak king of Egypt; who five years after came and pillaged Jerusalem, and all the fortified cities of the kingdom of Judah. The commerce to the East Indies was now discontinued, and consequently the sources of wealth in a great measure stopped; and this, added to the perpetual wars between the kings of Israel and Judah, contributed to that remarkable and speedy decline which is now so easily to be observed in the Jewish affairs.

Whether this king Shishak was the Sesostris of profane writers or not, his expedition against Jerusalem as recorded in scripture seems very much to resemble the desultory conquests ascribed to Sesostris. His infantry is said to have been innumerable, composed of different African nations; and his cavalry 60,000, with 1200 chariots; which agrees pretty well with the mighty armament ascribed to Sesostris, and of which an account is given under the article EGYPT, n° 2. There indeed his cavalry are said to have been only 24,000; but the number of his chariots are increased to 27,000; which last may not unreasonably be reckoned an exaggeration, and these supernumerary chariots may have been only cavalry: but unless we allow Sesostris to be the same with Shishak, it seems impossible to fix on any other king of Egypt that can be supposed to have undertaken this expedition in the days of Solomon.

Though the Jews obtained a temporary deliverance from Shishak, they were quickly after attacked by new enemies. In 941 B. C. one Zerah an Ethiopian invaded Judæa with an army of a million of infantry and 300 chariots; but was defeated with great slaughter by Asa king of Judah, who engaged him with an army of 580,000 men. About this time also we find the Syrians grown a considerable people, and bitter enemies both to the kings of Israel and Judah; aiming in fact at the conquest of both nations. Their kingdom commenced in the days of David, under Hadadezer, whose capital was Zobah, and who probably was at last obliged to become David's tributary, after having been defeated by him in several engagements. Before the death of David, however, one Rezon, who it seems had rebelled against Hadadezer, having found means to make himself master of Damascus, erected there a new kingdom, which soon became very powerful. The Syrian princes being thus in the neighbourhood of the two rival states of Israel and Judah (whose capitals were Samaria and Jerusalem), found it an easy matter to weaken them both, by pretending to assist the one against the other; but a detail of the

Civil
History.14
Of the Sy-
rians.

Civil
History.Civil
History.15
Of the
Western
nations.

transactions between the Jews and Syrians is only to be found in the Old Testament, to which we refer. In 740 B. C. however, the Syrian empire was totally destroyed by Tiglath Pileser king of Assyria; as was also the kingdom of Samaria by Shalmaneser his successor in 721. The people were either massacred, or carried into captivity into Media, Persia, and the countries about the Caspian Sea.

While the nations of the east were thus destroying each other, the foundations of very formidable empires were laid in the west, which in process of time were to swallow up almost all the eastern ones. In Africa, Carthage was founded by a Tyrian colony, about 869 B. C. according to those who ascribe the highest antiquity to that city; but, according to others, it was founded only in 769 or 770 B. C. In Europe a very considerable revolution took place about 900 B. C. The Heraclidæ, whom we have formerly seen expelled from Greece by Atreus the father of Agamemnon, after several unsuccessful attempts, at last conquered the whole Peloponnesus. From this time the Grecian states became more civilized, and their history becomes less obscure. The institution, or rather the revival and continuance, of the Olympic games, in 776 B. C. also greatly facilitated the writing not only of their history, but that of other nations; for as each Olympiad consisted of four years, the chronology of every important event became indubitably fixed by referring it to such and such an Olympiad. In 748 B. C. or the last year of the seventh Olympiad, the foundations of the city of Rome were laid by Romulus; and, 43 years after, the Spartan state was new modelled, and received from Lycurgus those laws, by observing of which it afterwards arrived at such a pitch of splendor.

16
State of the
world at
the begin-
ning of the
third gen-
eral period.

3. With the beginning of the 28th Olympiad, or 568 B. C. commences the third general period above mentioned, when profane history becomes somewhat more clear, and the relations concerning the different nations may be depended upon with some degree of certainty. The general state of the world was at that time as follows.—The northern parts of Europe were either thinly inhabited, or filled with unknown and barbarous nations, the ancestors of those who afterwards destroyed the Roman empire. France and Spain were inhabited by the Gomerians or Celtes. Italy was divided into a number of petty states, arising partly from Gaulish and partly from Grecian colonies; among which the Romans had already become formidable. They were governed by their king Servius Tullius; had increased their city by the demolition of Alba Longa, and the removal of its inhabitants to Rome; and had enlarged their dominions by several cities taken from their neighbours. Greece was also divided into a number of small states, among which the Athenians and Spartans, being the most remarkable, were rivals to each other. The former had, about 599 B. C. received an excellent legislation from Solon, and were enriching themselves by navigation and commerce: the latter were become formidable by the martial institutions of Lycurgus; and having conquered Messina, and added its territory to their own, were justly esteemed the most powerful people in Greece. The other states of most consideration were Corinth, Thebes, Argos, and Arcadia.—In Asia great revolu-

tions had taken place. The ancient kingdom of Assyria was destroyed by the Medes and Babylonians, its capital city Nineveh utterly ruined, and the greatest part of its inhabitants carried to Babylon. Nay, the very materials of which it was built were carried off, to adorn and give strength to that stately metropolis, which was then undoubtedly the first city in the world. Nebuchadnezzar, a wise and valiant prince, now sat on the throne of Babylon. By him the kingdom of Judæa was totally overthrown in 587 B. C. Three years before this he had taken and razed the city of Tyre, and over-run all the kingdom of Egypt. He is even said by Josephus to have conquered Spain, and reigned there nine years, after which he abandoned it to the Carthaginians; but this seems by no means probable. The extent of the Babylonian empire is not certainly known: but from what is recorded of it we may conclude, that it was not at all inferior even in this respect to any that ever existed; as the scripture tells us it was superior in wealth to any of the succeeding ones. We know that it comprehended Phœnicia, Palestine, Syria, Babylonia, Media, and Persia, and not improbably India also; and from a consideration of this vast extent of territory, and the riches with which every one of these countries abounded, we may form some idea of the wealth and power of this monarch. When we consider also, that the whole strength of this mighty empire was employed in beautifying the metropolis, we cannot look upon the wonders of that city as related by Herodotus to be at all incredible. See BABYLON; and ARCHITECTURE, n° 13. As to what passed in the republic of Carthage about this time, we are quite in the dark; there being a chasm in its history for no less than 300 years.

4. The fourth general period of history, namely, from the end of the fabulous times to the conquest of Babylon by Cyrus, is very short, including no more than 31 years. This sudden revolution was occasioned by the misconduct of Evil-merodach, Nebuchadnezzar's son, even in his father's life-time. For having, in a great hunting match on occasion of his marriage, entered the country of the Medes, and some of his troops coming up at the same time to relieve the garrisons in those places, he joined them to those already with him, and without the least provocation began to plunder and lay waste the neighbouring country. This produced an immediate revolt, which quickly extended over all Media and Persia. The Medes, headed by Astyages and his son Cyaxares, drove back Evil-merodach and his party with great slaughter; nor doth it appear that they were afterwards reduced even by Nebuchadnezzar himself. The new empire continued daily to gather strength; and at last Cyrus, Astyages's grandson, a prince of great prudence and valour, being made generalissimo of the Median and Persian forces, took Babylon itself in the year 538 B. C. as related under the article BABYLON.

During this period the Romans increased in power under the wise administration of their king Servius Tullius, who, though a pacific prince, rendered his people more formidable by a peace of 20 years than his predecessors had done by all their victories. The Greeks, even at this early period, began to interfere with the Persians, on account of the Ionians or Grecian colonies in Asia Minor. These had been sub-

17
Fourth pe-
riod. Hi-
story of the
Babylonian
empire.18
Of the
Romans,
Greeks,
Lydians,
and Per-
sians.

duced

Holothuria.

Holcus Surghum.

Plate CCXXXV.

Hispida.



Hirundo.

Fig. 1.



Fig. 2.



Fig. 3.



Hister.



Hirundo.

Fig. 4.



N.º 1.



N.º 2.



N.º 3.



A. Bell Prin. M. A. Sculptor fecit.

dued by Cræsus king of Lydia about the year 562, the time of Nebuchadnezzar's death. Whether the Lydians had been subdued by the Babylonish monarch or not, is not now to be ascertained; though it is very probable that they were either in subjection to him, or greatly awed by his power, as before his death nothing considerable was undertaken by them. It is indeed probable, that during the insanity of Nebuchadnezzar, spoken of by Daniel, the affairs of his kingdom would fall into confusion; and many of those princes whom he formerly retained in subjection would set up for themselves. Certain it is, however, that if the Babylonians did not regard Cræsus as their subject, they looked upon him to be a very faithful ally; inasmuch that they celebrated an annual feast in commemoration of a victory obtained by him over the Scythians. After the death of Nebuchadnezzar, Cræsus subdued many nations in Asia Minor, and among the rest the Ionians, as already related. They were, however, greatly attached to his government; for though they paid him tribute, and were obliged to furnish him with some forces in time of war, they were yet free from all kind of oppression. When Cyrus therefore was proceeding in his conquests of different parts of the Babylonish empire, before he proceeded to attack the capital, the Ionians refused to submit to him, though he offered them very advantageous terms. But soon after, Cræsus himself being defeated and taken prisoner, the Ionians sent ambassadors to Cyrus, offering to submit on the terms which had formerly been proposed. These terms were now refused; and the Ionians, being determined to resist, applied to the Spartans for aid. Though the Spartans, at that time could not be prevailed upon to give their countrymen any assistance, they sent ambassadors to Cyrus with a threatening message; to which he returned a contemptuous answer, and then forced the Ionians to submit at discretion, five years before the taking of Babylon. Thus commenced the hatred between the Greeks and Persians; and thus we see, that in the two first great monarchies the seeds of their destruction were sown even before the monarchies themselves were established. For while Nebuchadnezzar was raising the Babylonish empire to its utmost height; his son was destroying what his father built up; and at the very time when Cyrus was establishing the Persian monarchy, by his ill-timed severity to the Greeks he made that warlike people his enemies, whom his successors were by no means able to resist, and who would probably have overcome Cyrus himself, had they united in order to attack him. The transactions of Africa during this period are almost entirely unknown; though we cannot doubt that the Carthaginians enriched themselves by means of their commerce, which enabled them afterwards to attain such a considerable share of power.

19
Fifth general
period. History
of the
Jews, Babylonians,
Egyptians,
&c.

5. Cyrus having now become master of all the east, the Asiatic affairs continued for some time in a state of tranquillity. The Jews obtained leave to return to their own country, rebuild their temple, and again establish their worship, of all which an account is given in the sacred writings, though undoubtedly they must have been in a state of dependence on the Persians from that time forward. Cambyfes the successor of Cyrus added Egypt to his empire, which had either not submitted to Cyrus, or revolted soon after his death.

He intended also to have subdued the Carthaginians; but as the Phœnicians refused to supply him with ships to fight against their own countrymen, he was obliged to lay this design aside.

In 517 B. C. the Babylonians finding themselves grievously oppressed by their Persian masters, resolved to shake off the yoke, and set up for themselves. For this purpose, they took care to store their city with all manner of provisions; and when Darius Hystaspes, then king of Persia, advanced against them, they took the most barbarous method that can be imagined of preventing an unnecessary consumption of those provisions, which they had so carefully amassed. Having collected all the women, old men, and children, into one place, they strangled them without distinction, whether wives, fathers, mothers, brothers, or sisters; every one being allowed to save only the wife he liked best, and a maid servant to do the work of the house. This cruel policy did not avail them: their city was taken by treachery (for it was impossible to take it by force); after which the king caused the walls of it to be beat down from 200 to 50 cubits height, that their strength might no longer give encouragement to the inhabitants to revolt. Darius then turned his arms against the Scythians; but finding that expedition turn out both tedious and unprofitable, he directed his course eastward, and reduced all the country as far as the river Indus. In the mean time, the Ionians revolted; and being assisted by the Greeks, a war commenced between the two nations, which was not thoroughly extinguished but by the destruction of the Persian empire in 330 B. C. The Ionians, however, were for this time obliged to submit, after a war of six years; and were treated with great severity by the Persians. The conquest of Greece itself was then projected: but the expeditions for that purpose ended most unfortunately for the Persians, and encouraged the Greeks to make reprisals on them, in which they succeeded according to their utmost wishes; and had it only been possible for them to have agreed among themselves, the downfall of the Persian empire would have happened much sooner than it did. See ATHENS, SPARTA, MACEDON, and PERSIA.

In 459 B. C. the Egyptians made an attempt to recover their liberty, but were reduced after a war of six years. In 413 B. C. they revolted a second time: and being assisted by the Sidonians, drew upon the latter that terrible destruction foretold by the prophets; while they themselves were so thoroughly humbled, that they never after made any attempt to recover their liberty.

The year 403 B. C. proved remarkable for the revolt of Cyrus against his brother Artaxerxes Mnemon; in which, through his own rashness, he miscarried, and lost his life at the battle of Cunaxa in the province of Babylon. Ten thousand Greek mercenaries, who served in his army, made their way back into Greece, though surrounded on all sides by the enemy, and in the heart of a hostile country. In this retreat they were commanded by Xenophon, who has received the highest praises on account of his conduct and military skill in bringing it to a happy conclusion. Two years after, the invasions of Agesilaus king of Sparta threatened the Persian empire with total destruction; from which, however, it was relieved by his being recalled in order

20
Xenophon's retreat.

Civil
History.21
History of
the Greeks.

to defend his own country against the other Grecian states; and after this the Persian affairs continued in a more prosperous way till the time of Alexander.

During all this time, the volatile and giddy temper of the Greeks, together with their enthusiastic desire of romantic exploits, were preparing fetters for themselves, which indeed seemed to be absolutely necessary to prevent them from destroying one another. A zeal for liberty was what they all pretended; but on every occasion it appeared, that this love of liberty was only a desire of dominion. No state in Greece could bear to see another equal to itself; and hence their perpetual contests for pre-eminence, which could not but weaken the whole body, and render them an easy prey to an ambitious and politic prince, who was capable of taking advantage of those divisions. Being all equally impatient of restraint, they never could bear to submit to any regular government; and hence their determinations were nothing but the decisions of a mere mob, of which they had afterwards almost constantly reason to repent. Hence also their base treatment of those eminent men whom they ought most to have honoured; as Miltiades, Aristides, Themistocles, Alcibiades, Socrates, Phocion, &c. The various transactions between the Grecian states, though they make a very considerable figure in particular history, make none at all in a general sketch of the history of the world. We shall therefore only observe, that in 404 B. C. the Athenian power was in a manner totally broken by the taking of their city by the Spartans. In 370, that of the Spartans received a severe check from the Thebans at the battle of Leuctra; and eight years after was still further reduced by the battle of Mantinea. Epaminondas the great enemy of the Spartans was killed; but this only proved a more speedy means of subjugating all the states to a foreign, and at that time despicable, power. The Macedonians, a barbarous nation, lying to the north of the states of Greece, were two years after the death of Epaminondas reduced to the lowest ebb by the Illyrians, another nation of barbarians in the neighbourhood. The king of Macedon being killed in an engagement, Philip his brother departed from Thebes, where he had studied the art of war under Epaminondas, in order to take possession of his kingdom. Being a man of great prudence and policy, he quickly settled his own affairs; vanquished the Illyrians; and, being no stranger to the weakened situation of Greece, began almost immediately to meditate the conquest of it. The particulars of this enterprize are related under the article MACEDON: here it is sufficient to take notice, that by first attacking those he was sure he could overcome, by corrupting those whom he thought it dangerous to attack, by sometimes pretending to assist one state and sometimes another, and by imposing upon all as best served his turn, he at last put it out of the power of the Greeks to make any resistance, at least such as could keep him from gaining his end. In 338 B. C. he procured himself to be elected general of the Amphictyons, or council of the Grecian states, under pretence of settling some troubles at that time in Greece; but having once obtained liberty to enter that country with an army, he quickly convinced the states that they must all submit to his will. He was opposed by the Athenians and Thebans; but the intestine wars of Greece had cut off

all her great men, and no general was now to be found capable of opposing Philip with success.

The king of Macedon, being now master of all Greece, projected the conquest of Asia. To this he was encouraged by the ill success which had attended the Persians in their expeditions against Greece, the success of the Greeks in their invasions, and the retreat of the ten thousand under Xenophon. All these events showed the weakness of the Persians, their vast inferiority to the Greeks in military skill, and how easily their empire might be overthrown by a proper union among the states.

Philip was preparing to enter upon his grand design, when he was murdered by some assassins. His son Alexander was possessed of every quality necessary for the execution of so great a plan; and his impetuosity of temper made him execute it with a rapidity unheard of either before or since. It must be confessed, indeed, that the Persian empire was now ripe for destruction, and could not in all probability have withstood an enemy much less powerful than Alexander. The Asiatics have in all ages been much inferior to the European nations in valour and military skill. They were now sunk in luxury and effeminacy; and what was worse, they seem at this period to have been seized with that infatuation and distraction of counsels which scarce ever fails to be a forerunner of the destruction of any nation. The Persian ministers persuaded their sovereign to reject the prudent advice that was given him, of distressing Alexander by laying waste the country, and thus forcing him to return for want of provisions. Nay, they even prevented him from engaging the enemy in the most proper manner, by dividing his forces; and persuaded him to put Charidemus the Athenian to death, who had promised, with 100,000 men, of whom one third were mercenaries, to drive the Greeks out of Asia. In short, Alexander met with only two checks in his Persian expedition. The one was from the city of Tyre, which for seven months resisted his utmost efforts; the other was from Memnon the Rhodian, who had undertaken to invade Macedonia. The first of these obstacles Alexander at last got over, and treated the governor and inhabitants with the utmost cruelty. The other was scarce felt; for Memnon died after reducing some of the Grecian islands, and Darius had no other general capable of conducting the undertaking. The power of the Persian empire was totally broke by the victory gained over Darius at Arbela in 331 B. C. and next year a total end was put to it by the murder of the king by Bessus one of his subjects.

The ambition of Alexander was not to be satisfied with the possession of the kingdom of Persia, or indeed of any other on earth. Nothing less than the total subjection of the world itself seemed sufficient to him; and therefore he was now prompted to invade every country of which he could only learn the name, whether it had belonged to the Persians or not. In consequence of this disposition, he invaded and reduced Hyrcania, Bactria, Sogdia, and all that vast tract of country now called *Bukharia*. At last, having entered India, he reduced all the nations to the river Hyphasis, one of the branches of the Indus. But when he would have proceeded farther, and extended his conquests quite to the eastern extremities of Asia, his troops

Civil
History.22
Conquest of
Persia by
Alexander.23
His con-
quest of o-
ther na-
tions.

Civil
History.Civil
History.24
History of
the Ro-
mans.25
Of the Car-
thaginians,
and of Si-
cily.

troops positively refused to follow him farther, and he was constrained to return. In 323, this mighty conqueror died of a fever; without having time to settle the affairs of his vast extended empire, or even to name his successor.

While the Grecian empire thus suddenly sprung up in the east, the rival states of Rome and Carthage were making considerable advances in the west. The Romans were establishing their empire on the most solid foundations; to which their particular situation naturally contributed. Being originally little better than a parcel of lawless banditti, they were despised and hated by the neighbouring states. This soon produced wars; in which, at first from accidental circumstances, and afterwards from their superior valour and conduct, the Romans proved almost constantly victorious. The jealousies which prevailed among the Italian states, and their ignorance of their true interest, prevented them from combining against that aspiring nation, and crushing it in its infancy, which they might easily have done; while in the mean time the Romans, being kept in a state of continual warfare, became at last such expert soldiers, that no other state on earth could resist them. During the time of their kings they had made a very considerable figure among the Italian nations; but after their expulsion, and the commencement of the republic, their conquests became much more rapid and extensive. In 501 B. C. they subdued the Sabines; eight years after, the Latins; and in 399 the city of Veii, the strongest in Italy excepting Rome itself, was taken after a siege of ten years. But in the midst of their successes a sudden irruption of the Gauls had almost put an end to their power and nation at once. The city was burnt to the ground in 383 B. C. and the capitol on the point of being surprised, when the Gauls, who were climbing up the walls in the night, were accidentally discovered and repulsed*. In a short time Rome was rebuilt with much greater splendor than before, but now a general revolt and combination of the nations formerly subdued took place. The Romans, however, still got the better of their enemies; but, even at the time of the celebrated Camillus's death, which happened about 352 B. C. their territories scarce extended six or seven leagues from the capital. The republic from the beginning was agitated by those dissensions which at last proved its ruin. The people had been divided by Romulus into two classes, namely *Patricians* and *Plebeians*, answering to our nobility and commonalty. Between these two bodies were perpetual jealousies and contentions; which retarded the progress of the Roman conquests, and revived the hopes of the nations they had conquered. The tribunes of the people were perpetually opposing the consuls and military tribunes. The senate had often recourse to a dictator endowed with absolute power; and then the valour and experience of the Roman troops made them victorious: but the return of domestic seditions gave the subjugated nations an opportunity of shaking off the yoke. Thus had the Romans continued for near 400 years, running the same round of wars with the same enemies, and reaping very little advantage from their conquests, till at last matters were compounded by choosing one of the consuls from among the plebeians; and from this time chiefly we may date the prosperity of Rome, so that

* See
Rome.

by the time that Alexander the Great died they were held in considerable estimation among foreign nations.

The Carthaginians in the mean time continued to enrich themselves by commerce; but, being less conversant in military affairs, were by no means equal to the Romans in power, though they excelled them in wealth. A new state, however, makes its appearance during this period, which may be said to have taught the Carthaginians the art of war, and by bringing them into the neighbourhood of the Romans, proved the first source of contention between these two powerful nations. This was the island of Sicily. At what time people were first settled on it, is not now to be ascertained. The first inhabitants we read of were called *Sicani*, *Siculi*, *Lastrigones*, &c. but of these we know little or nothing. In the second year of the 17th Olympiad, or 710 B. C. some Greek colonies are said to have arrived on the island, and in a short time founded several cities, of which Syracuse was the chief. The Syracusans at last subdued the original inhabitants; though it doth not appear that the latter were ever well affected to their government, and therefore were on all occasions ready to revolt. The first considerable prince, or (as he is called by the Greeks) *tyrant* of Syracuse, was Gelon, who obtained the sovereignty about the year 483 B. C. At what time the Carthaginians first carried their arms into Sicily is not certainly known; only we are assured, that they possessed some part of the island as early as 505 B. C. For in the time of the first consuls, the Romans and Carthaginians entered into a treaty chiefly in regard to matters of navigation and commerce; by which it was stipulated, that the Romans who should touch at Sardinia, or that part of Sicily which belonged to Carthage, should be received there in the same manner as the Carthaginians themselves. Whence it appears, that the dominion of Carthage already extended over Sardinia and part of Sicily: but in 28 years after, they had been totally driven out by Gelon; which probably was the first exploit performed by him. This appears from his speech to the Athenian and Spartan ambassadors who desired his assistance against the forces of Xerxes king of Persia. The Carthaginians made many attempts to regain their possessions in this island, which occasioned long and bloody wars between them and the Greeks, as related under the articles *CARTHAGE* and *SICILY*. This island also proved the scene of much slaughter and bloodshed in the wars of the Greeks with one another*. Before the year 323 B. C. however, the Carthaginians had made themselves masters of a very considerable part of the island; from whence all the power of the Greeks could not dislodge them. It is proper also to observe, that after the destruction of Tyre by Alexander the Great, almost all the commerce in the western part of the world fell to the share of the Carthaginians. Whether they had at this time made any settlements in Spain, is not known. It is certain, that they traded to that country for the sake of the silver, in which it was very rich; as they probably also did to Britain for the tin with which it abounded.

* See Athens
and Sparta.

6. The beginning of the sixth period presents us with a state of the world entirely different from the foregoing. We now behold all the eastern part of the world, from the confines of Italy to the river Indus, and

6
Sixth pe-
riod. Hi-
story of the
Macedo-
nian em-
pire,
and

Civil
History.

and beyond it, newly united into one vast empire, and at the same time ready to fall to pieces for want of a proper head; the western world filled with fierce and savage nations, whom the rival republics of Carthage and Rome were preparing to enslave as fast as they could. The first remarkable events took place in the Macedonian empire.—Alexander, as already observed, had not distinctly named any successor; but he had left behind him a victorious, and, we may say, invincible army, commanded by most expert officers, all of them ambitious of supreme authority. It is not to be supposed that peace could long be preserved in such a situation. For a number of years, indeed, nothing was to be seen or heard of but the most horrid slaughters, and wickedness of every kind; until at last the mother, wives, children, brothers, and even sisters, of Alexander were cut off; not one of the family of that great conqueror being left alive. When matters were a little settled, four new empires, each of them of no small extent, had arisen out of the empire of Alexander. Cassander, the son of Antipater, had Macedonia, and all Greece; Antigonus, Asia Minor; Seleucus had Babylon, and the eastern provinces; and Ptolemy Lagus, Egypt, and the western ones. One of these empires, however, quickly fell; Antigonus being defeated and killed by Seleucus and Lyfimachus at the battle of Ipsus, in 301 B. C. The greatest part of his dominions then fell to Seleucus: but several provinces took the opportunity of these confusions to shake off the Macedonian yoke altogether: and thus were formed the kingdoms of Pontus, Bithynia, Pergamus, Armenia, and Cappadocia. The two most powerful and permanent empires, however, were those of Syria founded by Seleucus, and Egypt by Ptolemy Lagus. The kings of Macedon, though they did not preserve the same authority over the Grecian states that Alexander, Antipater, and Cassander, had done, yet effectually prevented them from those outrages upon one another, for which they had formerly been so remarkable. Indeed, it is somewhat difficult to determine, whether their condition was better or worse than before they were conquered by Philip; since, though they were now prevented from destroying one another, they were most grievously oppressed by the Macedonian tyrants.

27
Of the Ro-
mans and
Carthagi-
nians.

While the eastern parts of the world were thus deluged with blood, and the successors of Alexander were pulling to pieces the empire which he had established; the Romans and Carthaginians proceeded in their attempts to enslave the nations of the west. The Romans, ever engaged in war, conquered one city and state after another, till about the year 253 B. C. they had made themselves masters of almost the whole of Italy. During all this time they had met only with a single check in their conquests; and that was the invasion of Pyrrhus, king of Epirus. That ambitious and fickle prince had projected the conquest of Italy, which he fancied would be an easy matter. Accordingly, in 271 B. C. he entered that country, and maintained a war with the Romans for six years; till at last, being utterly defeated by Curius Dentatus, he was obliged to return.

The Romans had no sooner made themselves masters of Italy, than they wanted only a pretence to carry
N^o 155.

their arms out of it; and this pretence was soon found out. Being invited into Sicily to assist the Mamertines against Hiero king of Syracuse and the Carthaginians, they immediately commenced a war with the latter, which continued with the utmost fury for 23 years. The war ended greatly to the disadvantage of the Carthaginians, chiefly owing to the bad conduct of their generals; none of whom, Hamilcar Barcas alone excepted, seem to have been possessed of any degree of military skill; and the state had suffered too many misfortunes before he entered upon the command, for him or any other to retrieve it at that time. The consequence of this war was the entire loss of Sicily to the Carthaginians; and soon after, the Romans seized on the island of Sardinia.

Hamilcar perceiving that there was now no alternative, but that in a short time either Carthage must conquer Rome, or Rome would conquer Carthage, bethought himself of a method by which his country might become equal to that haughty republic. This was by reducing all Spain, in which the Carthaginians had already considerable possessions, and from the mines of which they drew great advantages. He had, therefore, no sooner finished the war with the mercenaries, which succeeded that with the Romans, than he set about the conquest of Spain. This, however, he did not live to accomplish, though he made great progress in it. His son Asdrubal continued the war with success; till at last, the Romans, jealous of his progress, persuaded him to enter into a treaty with them, by which he engaged himself to make the river Iberus the boundary of his conquests. This treaty probably was never ratified by the senate of Carthage; nor, though it had, would it have been regarded by Hannibal, who succeeded Asdrubal in the command, and had sworn perpetual enmity with the Romans. The transactions of the second Punic war are perhaps the most remarkable which the history of the world can afford. Certain it is, that nothing can show more clearly the slight foundations upon which the greatest empires are built. We now see the Romans, the nation most remarkable for their military skill in the whole world, and who, for more than 500 years, had been constantly victorious, unable to resist the efforts of one single man. At the same time we see this man, though evidently the first general in the world, lost solely for want of a slight support. In former times, the republic of Carthage supplied her generals in Sicily with hundreds of thousands, though their enterprises were almost constantly unsuccessful; but now Hannibal, the conqueror of Italy, was obliged to abandon his design, merely for want of 20 or 30,000 men. That degeneracy and infatuation, which never fails to overwhelm a falling nation, or rather which is the cause of its fall, had now infected the counsels of Carthage, and the supplies were denied. Neither was Carthage the only infatuated nation at this time. Hannibal, whose prudence never forsook him either in prosperity or adversity, in the height of his good fortune had concluded an alliance with Philip king of Macedon. Had that prince sent an army to the assistance of the Carthaginians in Italy immediately after the battle of Cannæ, there can be no doubt but the Romans would have been forced to accept of that peace

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History.† See Car-
thage, n°
125.

peace which they so haughtily refused†; and indeed, this offer of peace, in the midst of so much success, is an instance of moderation which perhaps does more honour to the Carthaginian general than all the military exploits he performed. Philip, however, could not be roused from his indolence, nor see that his own ruin was connected with that of Carthage. The Romans had now made themselves masters of Sicily: after which they recalled Marcellus, with his victorious army, to be employed against Hannibal; and the consequence at last was, that the Carthaginian armies, unsupported in Italy, could not conquer it, but were recalled into Africa, which the Romans had invaded. The southern nations seem to have been as blind to their own interest as the northern ones. They ought to have seen, that it was necessary for them to preserve Carthage from being destroyed; but, instead of this, Masinissa king of Numidia allied with the Romans, and by his means Hannibal was overcome at the battle of Zama*, which finished the second Punic war, in 188 B. C.

* See Zama.

28
Of Egypt
and Syria.

The event of the second Punic war determined the fate of almost all the other nations in the world. All this time, indeed, the empires of Egypt, Syria, and Greece, had been promoting their own ruin by mutual wars and intestine divisions. The Syrian empire was now governed by Antiochus the Great, who seems to have had little right to such a title. His empire, though diminished by the defection of the Parthians, was still very powerful; and to him Hannibal applied, after he was obliged to leave his country, as related under CARTHAGE, n° 152. Antiochus, however, had not sufficient judgment to see the necessity of following that great man's advice; nor would the Carthaginians be prevailed upon to contribute their assistance against the nation which was soon to destroy them without any provocation. The pretence for war on the part of the Romans was, that Antiochus would not declare his Greek subjects in Asia to be free and independent states; a requisition which neither the Romans nor any other nation had a right to make. The event of all was, that Antiochus was every-where defeated, and forced to conclude a peace upon very disadvantageous terms.

29
Of Greece.

See Greece.

In Europe, matters went on in the same way; the states of Greece, weary of the tyranny of the Macedonians, entered into a resolution of recovering their liberties. For this purpose was framed the Achæan League†; but, as they could not agree among themselves, they at last came to the imprudent determination of calling in the Romans to defend them against Philip king of Macedon. This produced a war, in which the Romans were victorious. The Macedonians, however, were still formidable; and, as the intention of the Romans to enslave the whole world could no longer be doubted, Perseus, the successor of Philip, renewed the war. Through his own cowardice he lost a decisive engagement, and with it his kingdom, which submitted to the Romans in 167 B. C.

30
Destruction
of Carthage
and Co-
rinth.

Macedon being thus conquered, the next step was utterly to exterminate the Carthaginians; whose republic, notwithstanding the many disasters that had befallen it, was still formidable. It is true, the Carthaginians were giving no offence; nay, they even

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made the most abject submissions to the republic of Rome: but all was not sufficient. War was declared a third time against that unfortunate state; there was now no Hannibal to command their armies, and the city was utterly destroyed 146 B. C. The same year the Romans put an end to the liberties they had pretended to grant the cities of Greece, by the entire destruction of CORINTH. See that article.

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After the death of Antiochus the Great, the affairs of Syria and Egypt went on from bad to worse. The degenerate princes which filled the thrones of those empires, regarding only their own pleasures, either spent their time in oppressing their subjects, or in attempting to deprive each other of their dominions, by which means they became a more easy prey to the Romans. So far indeed were they from taking any means to secure themselves against the overgrown power of that republic, that the kings both of Syria and Egypt sometimes applied to the Romans as protectors. Their downfall, however, did not happen within the period of which we now treat.—The only other transaction which makes any considerable figure in the Syrian empire is the oppression of the Jews by Antiochus Epiphanes. After their return from the Babylonish captivity, they continued in subjection to the Persians till the time of Alexander. From that time they were subject to the kings of Egypt or Syria, as the fortune of either happened to prevail. Egypt being reduced to a low ebb by Antiochus Epiphanes, the Jews fell under his dominion; and being severely treated by him, imprudently showed some signs of joy on a report of his death. This brought him against them with a powerful army; and in 170 B. C. he took Jerusalem by storm, committing the most horrid cruelties on the inhabitants, in so much that they were obliged to hide themselves in caverns and in holes of rocks to avoid his fury. Their religion was totally abolished, their temple profaned, and an image of Jupiter Olympius set up on the altar of burnt-offerings: which profanation is thought to be the *abomination of desolation* mentioned by the prophet Daniel. This revolution, however, was of no long continuance. In 167 B. C. Mattathias restored the true worship in most of the cities of Judea; and in 165 the temple was purified, and the worship there restored by Judas Maccabæus. This was followed by a long series of wars between the Syrians and Jews, in which the latter were almost always victorious; and before these wars were finished, the destruction of Carthage happened, which puts an end to the sixth general period formerly mentioned.

31
History of
Egypt, Sy-
ria, and
Judea.

7. The beginning of the seventh period presents us with a view of the ruins of the Greek empire in the declining states of Syria and Egypt; both of them much circumscribed in bounds. The empire of Syria at first comprehended all Asia to the river Indus, and beyond it; but in 312 B. C. most of the Indian provinces were by Seleucus ceded to one *Sandrocottus*, or *Androcottus*, a native, who in return gave him 500 elephants. Of the empire of Sandrocottus we know nothing farther than that he subdued all the countries between the Indus and the Ganges; so that from this time we may reckon the greatest part of India independent on the Syro-Macedonian princes. In 250 B. C. however, the empire sustained a much greater loss

32
Seventh pe-
riod. Ge-
neral state
of the
world.

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loss by the revolt of the Parthians and Bactrians from Antiochus Theus. The former could not be subdued; and as they held in subjection to them the vast tract which now goes under the name of *Persia*, we must look upon their defection as an irreparable loss. Whether any part of their country was afterwards recovered by the kings of Egypt or Syria, is not very certain; nor is it of much consequence, since we are assured that in the beginning of the seventh period, i. e. 146 B. C. the Greek empires of Syria and Egypt were reduced by the loss of India, Persia, Armenia, Pontus, Bithynia, Cappadocia, Pergamus, &c. The general state of the world in 146 B. C. therefore was as follows. In Asia were the empires of India, Parthia, and Syria, with the lesser states of Armenia, Pontus, &c. above mentioned; to which we must add that of Arabia, which during the sixth period had grown into some consequence, and had maintained its independency from the days of Ishmael the son of Abraham. In Africa were the kingdoms of Egypt and Ethiopia; the Carthaginian territories, now subject to the Romans; and the kingdoms of Numidia, Mauritania, and Getulia, ready to be swallowed up by the same ambitious and insatiable power, now that Carthage was destroyed, which served as a barrier against it. To the south lay some unknown and barbarous nations, secure by reason of their situation and insignificance, rather than their strength, or distance from Rome. In Europe we find none to oppose the progress of the Roman arms, except the Gauls, Germans, and some Spanish nations. These were brave indeed; but through want of military skill, incapable of contending with such masters in the art of war as the Romans then were.

33
Conquests
of the Ro-
mans.

The Spaniards had indeed been subdued by Scipio Africanus in the time of the second Punic war: but, in 155 B. C. they revolted; and, under the conduct of one Viriathus, formerly a robber, held out for a long time against all the armies the Romans could send into Spain. Him the Consul Cæpio caused to be murdered about 138 B. C. because he found it impossible to reduce him by force. The city of Numantia defied the whole Roman power for six years longer; till at last, by dint of treachery, numbers, and perseverance, it was not taken, but the inhabitants, reduced to extremity by famine, set fire to their houses, and perished in the flames, or killed one another, so that not one remained to grace the triumph of the conqueror: and this for the present quieted the rest of the Spaniards. About the same time Attalus, king of Pergamus, left by will the Roman people heirs to all his goods; upon which they immediately seized on his kingdom as part of those goods, and reduced it to a Roman province, under the name of *Asia Proper*. Thus they continued to enlarge their dominions on every side, without the least regard to justice, to the means they employed, or to the miseries they brought upon the conquered people. In 122 B. C. the Balearic islands, now called *Majorca*, *Minorca*, and *Ivica*, were subdued, and the inhabitants exterminated; and, soon after, several of the nations beyond the Alps were obliged to submit.

In Africa the crimes of Jugurtha soon gave this ambitious republic an opportunity of conquering the kingdoms of Numidia and Mauritania: and indeed

this is almost the only war in which we find the Romans engaged where their pretensions had the least colour of justice; though in no case whatever could a nation show more degeneracy than the Romans did on this occasion. The particulars of this war are related under the articles NUMIDIA and ROME. The event of it was the total reduction of the former about the year 105 B. C. but Mauritania and Getulia preserved their liberty for some time longer.

In the east, the empire of Syria continued daily to decline; by which means the Jews not only had an opportunity of recovering their liberty, but even of becoming as powerful, or at least of extending their dominions as far, as in the days of David and Solomon. This declining empire was still farther reduced by the civil dissensions between the two brothers Antiochus Grypus and Antiochus Cyzicenus; during which the cities of Tyre, Sidon, Ptolemais, and Gaza, declared themselves independent, and in other cities tyrants started up who refused allegiance to any foreign power. This happened about 100 B. C.; and 17 years after, the whole was reduced by Tigranes king of Armenia. On his defeat by the Romans, the latter reduced Syria to a province of their empire. The kingdom of Armenia itself, with those of Pontus, Cappadocia, and Bithynia, soon shared the same fate; Pontus, the most powerful of them all, being subdued about 64 B. C. The kingdom of Judea also was reduced under the same power much about this time. This state owed the loss of its liberty to the same cause that had ruined several others, namely, calling in the Romans as arbitrators between two contending parties. The two sons of Alexander Jannæus (Hyrcaus and Aristobulus) contended for the kingdom. Aristobulus, being defeated by the party of Hyrcanus, applied to the Romans. Pompey the Great, who acted as ultimate judge in this affair, decided it against Aristobulus, but at the same time deprived Hyrcanus of all power as a king; not allowing him even to assume the regal title, or to extend his territory beyond the ancient borders of Judea. To such a length did Pompey carry this last article, that he obliged him to give up all those cities in Coelosyria and Phœnicia which had been gained by his predecessors, and added them to the newly acquired Roman province of Syria.

Thus the Romans became masters of all the eastern parts of the world, from the Mediterranean sea to the borders of Parthia. In the west, however, the Gauls were still at liberty, and the Spanish nations bore the Roman yoke with great impatience. The Gauls infested the territories of the republic by their frequent incursions, which were sometimes very terrible; and though several attempts had been made to subdue them, they always proved insufficient till the time of Julius Cæsar. By him they were totally reduced, from the river Rhine to the Pyrenæan mountains, and many of their nations almost exterminated. He carried his arms also into Germany and the southern parts of Britain; but in neither of these parts did he make any permanent conquests. The civil wars between him and Pompey gave him an opportunity of seizing on the kingdom of Mauritania and those parts of Numidia which had been allowed to retain their liberty. The kingdom of Egypt alone remained, and to this

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nothing

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nothing belonged except the country properly so called. Cyrenaica was bequeathed by will to the Romans about 58 B. C.; and about the same time the island of Cyprus was seized by them without any pretence, except a desire of possessing the treasure of the king. — The kingdom of Egypt continued for some time longer at liberty; which in some measure must be ascribed to the internal dissensions of the republic, but more especially to the amours of Pompey, Julius Cæsar, and Marc Antony, with the famous Cleopatra queen of Egypt. The battle of Actium, however, determined the fate of Antony, Cleopatra, and Egypt itself; which last was reduced to a Roman province about 9 B. C.

34
Origin and
progress of
the civil
wars in
Rome.

While the Romans thus employed all means to reduce the world to their obedience, they were making one another feel the same miseries at home which they inflicted upon other nations abroad. The first civil dissensions took their rise at the siege of Numantia in Spain. We have already observed, that this small city resisted the whole power of the Romans for six years. Once they gave them a most terrible and shameful defeat, wherein 30,000 Romans fled before 4000 Numantines. Twenty thousand were killed in the battle, and the remaining ten thousand so shut up, that there was no possibility of escaping. In this extremity they were obliged to negotiate with the enemy, and a peace was concluded upon the following terms: 1. That the Numantines should suffer the Romans to retire unmolested; and, 2. That Numantia should maintain its independence, and be reckoned among the Roman allies. — The Roman senate, with an injustice and ingratitude hardly to be matched, broke this treaty, and in return ordered the commander of their army to be delivered up to the Numantines: but they refused to accept of him, unless his army was delivered along with him; upon which the war was renewed, and ended as already related. The fate of Numantia, however, was soon revenged. Tiberius Sempronius Gracchus, brother-in-law to Scipio Africanus the second, had been a chief promoter of the peace with the Numantines already mentioned, and of consequence had been in danger of being delivered up to them along with the commander in chief. This disgrace he never forgot; and, in order to revenge himself, undertook the cause of the Plebeians against the Patricians, by whom the former were greatly oppressed. He began with reviving an old law, which had enacted that no Roman citizen should possess more than 500 acres of land. The overplus he designed to distribute among those who had no lands, and to reimburse the rich out of the public treasury. This law met with great opposition, bred many tumults, and at last ended in the death of Gracchus and the persecution of his friends, several hundreds of whom were put to cruel deaths without any form of law.

The disturbances did not cease with the death of Gracchus. New contests ensued on account of the Sempronian law, and the giving to the Italian allies the privilege of Roman citizens. This last not only produced great commotions in the city, but occasioned a general revolt of the states of Italy against the republic of Rome. This rebellion was not quelled without the utmost difficulty: and in the mean time, the city was deluged with blood by the contending

factions of Sylla and Marius; the former of whom sided with the patricians, and the latter with the plebeians. These disturbances ended in the perpetual dictatorship of Sylla, about 80 B. C.

From this time we may date the loss of the Roman liberty; for though Sylla resigned his dictatorship two years after, the succeeding contests between Cæsar and Pompey proved equally fatal to the republic. These contests were decided by the battle of Pharsalia, by which Cæsar became in effect master of the empire in 43 B. C. Without loss of time he then crossed over into Africa; totally defeated the republican army in that continent; and, by reducing the country of Mauritania to a Roman province, completed the Roman conquests in these parts. His victory over the sons of Pompey at Munda 40 B. C. secured him from any further apprehensions of a rival. Being therefore sole master of the Roman empire, and having all the power of it at his command, he projected the greatest schemes; tending, according to some, not less to the happiness than to the glory of his country: when he was assassinated in the senate-house, in the 56th year of his age, and 39 B. C.

Without investigating the political justice of this action, or the motives of the perpetrators, it is impossible not to regret the death of this great man, when we contemplate his virtues, and the designs which he is said to have formed: (See ROME) Nor is it possible to justify, from ingratitude at least, even the most virtuous of the conspirators, when we consider the obligations under which they lay to him. And as to the measure itself, even in the view of expediency, it seems to be generally condemned. In fact, from the transactions which had long preceded, as well as those which immediately followed, the murder of Cæsar, it is evident, that Rome was incapable of preserving its liberty any longer, and that the people had become unfit for being free. The efforts of Brutus and Cassius were therefore unsuccessful, and ended in their own destruction and that of great numbers of their followers in the battle of Philippi. The defeat of the republicans was followed by numberless disturbances, murders, proscriptions, &c. till at last Octavianus, having cut off all who had the courage to oppose him, and finally got the better of his rivals by the victory at Actium, put an end to the republic in the year 27 B. C.

35
Octavianus
puts an end
to the re-
public.

The destruction of the Roman commonwealth proved advantageous to the few nations of the world who still retained their liberty. That outrageous desire of conquest, which had so long marked the Roman character, now in a great measure ceased; because there was now another way of satisfying the desires of ambitious men, namely, by courting the favour of the emperor. After the final reduction of the Spaniards, therefore, and the conquest of the countries of Mæsia, Pannonia, and some others adjacent to the Roman territories, and which in a manner seemed naturally to belong to them, the empire enjoyed for some time a profound peace.

The only remarkable transactions which took place during the remainder of the period of which we treat, were the conquest of Britain by Claudius and Agricola, and the destruction of Jerusalem by Vespasian and Titus. The war with the Jews began A. D. 67; and

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was occasioned by their obstinately claiming the city of Cæsarea, which the Romans had added to the province of Syria. It ended in 73, with the most terrible destruction of their city and nation; since which time they have never been able to assemble as a distinct people. The southern parts of Britain were totally subdued by Agricola about ten years after.

In the 98th year of the Christian era, Trajan was created emperor of Rome; and being a man of great valour and experience in war, carried the Roman conquests to their utmost extent. Having conquered the Dacians, a German nation beyond the Danube, and who had of late been very troublesome, he turned his arms eastward; reduced all Mesopotamia, Chaldaea, Assyria; and having taken Ctesiphon, the capital of the Parthian empire, appointed them a king, which he thought would be a proper method of keeping that warlike people in subjection. After this, he proposed to return to Italy, but died by the way; and with his reign the seventh general period abovementioned is concluded.

36
Eighth pe-
riod. Ge-
neral state
of the
world.

8. The beginning of the eighth period presents us with a view of one vast empire, in which almost all the nations of the world were swallowed up. This empire comprehended the best part of Britain, all Spain, France, the Netherlands, Italy, part of Germany, Egypt, Barbary, Bildulgerid, Turkey in Europe, Turkey in Asia, and Persia. The state of India at this time is unknown. The Chinese lived in a remote part of the world, unheard of and unmolested by the western nations who struggled for the empire of the world. The northern parts of Europe and Asia were filled with barbarous nations, already formidable to the Romans, and who were soon to become more so. The vast empire of the Romans, however, had no sooner attained its utmost degree of power, than, like others before it, it began to decline. The provinces of Babylonia, Mesopotamia, and Assyria, almost instantly revolted, and were abandoned by Adrian the successor of Trajan in the empire. The Parthians having recovered their liberty, continued to be very formidable enemies, and the barbarians of the northern parts of Europe continued to increase in strength; while the Romans, weakened by intestine divisions, became daily less able to resist them. At different times, however, some warlike emperors arose, who put a stop to the incursions of these barbarians; and about the year 215, the Parthian empire was totally overthrown by the Persians, who had long been subject to them. This revolution proved of little advantage to the Romans. The Persians were enemies still more troublesome than the Parthians had been; and though often defeated, they still continued to infest the empire on the east, as the barbarous nations of Europe did on the north. In 260, the defeat and captivity of the emperor Valerian by the Persians, with the disturbances which followed, threatened the empire with utter destruction. Thirty tyrants seized the government at once, and the barbarians pouring in on all sides in prodigious numbers ravaged almost all the provinces of the empire. By the vigorous conduct of Claudius, Aurelian, Tacitus, Probus, and Carus, the empire was restored to its former lustre; but as the barbarians were only repulsed, and never thoroughly subdued, this proved only a temporary relief. What was worse, the Roman soldiers, grown impatient of restraint, commonly murdered those

emperors who attempted to revive among them the ancient military discipline which alone could ensure the victory over their enemies. Under Dioclesian, the disorders were so great, that though the government was held by two persons, they found themselves unable to bear the weight of it, and therefore took other two partners in the empire. Thus was the Roman empire divided into four parts; which by all historians is said to have been productive of the greatest mischiefs. As each of the four sovereigns would have as many officers both civil and military, and the same number of forces that had been maintained by the state when governed only by one emperor, the people were not able to pay the sums necessary for supporting them. Hence the taxes and imposts were increased beyond measure, the inhabitants in several provinces reduced to beggary, the land left untilld for want of hands, &c. An end was put to these evils when the empire was again united under Constantine the Great; but in 330 a mortal blow was given to it, by removing the imperial seat to Byzantium, now Constantinople, and making it equal to Rome. The introduction and establishment of Christianity, already corrupted with the grossest superstitions, proved also a most grievous detriment to the empire. Instead of that ferocious and obstinate valour in which the Romans had so long been accustomed to put their trust, they now imagined themselves secured by signs of the cross, and other external symbols of the Christian religion. These they used as a kind of magical incantations, which undoubtedly proved at all times ineffectual; and hence also in some measure proceeded the great revolution which took place in the next period.

9. The ninth general period shows us the decline and miserable end of the western part of the Roman empire. We see that mighty empire, which formerly occupied almost the whole world, now weakened by division, and surrounded by enemies. On the east, the Persians; on the north, the Scythians, Sarmatians, Goths, and a multitude of other barbarous nations, watched all occasions to break into it; and miscarried in their attempts, rather through their own barbarity, than the strength of their enemies. The devastations committed by those barbarians when they made their incursions are incredible, and the relation shocking to human nature. Some authors seem much inclined to favour them; and even insinuate, that barbarity and ignorant ferocity were their chief if not their only faults: but from their history it plainly appears, that not only barbarity and the most shocking cruelty, but the highest degrees of avarice, perfidy, and disregard to the most solemn promises, were to be numbered among their vices. It was ever a sufficient reason for them to make an attack, that they thought their enemies could not resist them. Their only reason for making peace, or for keeping it, was because their enemies were too strong; and their only reason for committing the most horrid massacres, rapes, and all manner of crimes, was because they had gained a victory. The Romans, degenerate as they were, are yet to be esteemed much better than these savages; and therefore we find not a single province of the empire that would submit to the barbarians while the Romans could possibly defend them.

Some of the Roman emperors indeed withstood this inundation of savages; but as the latter grew daily more

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more numerous, and the Romans continued to weaken themselves by their intestine divisions, they were at last obliged to take large bodies of barbarians into their pay, and teach them their military discipline, in order to drive away their countrymen, or others who invaded the empire. This at last proved its total destruction; for, in 476, the barbarians who served in the Roman armies, and were dignified with the title of *allies*, demanded the third part of the lands of Italy as a reward for their services; but meeting with a refusal, they revolted, and made themselves masters of the whole country, and of Rome itself, which from that time ceased to be the head of an empire of any consequence.

38
General
state of the
world.

This period exhibits a most unfavourable view of the western parts of the world: The Romans, from the height of grandeur, sunk to the lowest slavery, nay, in all probability, almost exterminated; the provinces they formerly governed, inhabited by human beings scarce a degree above the brutes; every art and science lost; and the savage conquerors even in danger of starving for want of a sufficient knowledge of agriculture, having now no means of supplying themselves by plunder and robbery as before. Britain had long been abandoned to the mercy of the Scots and Picts; and in 450 the inhabitants had called in the Saxons to their assistance, whom they soon found worse enemies than those against whom they had implored their aid. Spain was held by the Goths and Suevians; Africa (that is, Barbary and Bildulgerid), by the Vandals; the Burgundians, Goths, Franks, and Alans, had erected several small states in Gaul; and Italy was subjected to the Heruli under Odoacer, who had taken upon him the title of *king of Italy*. In the east, indeed, matters wore an aspect somewhat more agreeable. The Roman empire continued to live in that of Constantinople, which was still very extensive. It comprehended all Asia Minor and Syria, as far as Persia; in Africa, the kingdom of Egypt; and Greece in Europe. The Persians were powerful, and rivalled the emperors of Constantinople; and beyond them lay the Indians, Chinese, and other nations, who, unheard of by the inhabitants of the more western parts, enjoyed peace and liberty.

The Constantinopolitan empire continued to decline by reason of its continual wars with the Persians, Bulgarians, and other barbarous nations; to which also superstition and relaxation of military discipline largely contributed. The Persian empire also declined from the same causes, together with the intestine broils from which it was seldom free more than that of Constantinople. The history of the eastern part of the world during this period, therefore, consists only of the wars between these two great empires, of which an account is given under the articles CONSTANTINOPLE and PERSIA; and which were productive of no other consequence than that of weakening them both, and making them a more easy prey to those enemies who were now as it were in embryo, but shortly about to erect an empire almost as extensive as that of the Greeks or Romans.

39
History of
Italy.

Among the western nations, the revolutions, as might naturally be expected from the character of the people, succeeded one another with rapidity. The Heruli un-

der Odoacer were driven out by the Goths under Theodoric. The Goths were expelled by the Romans; and, while the two parties were contending, both were attacked by the Franks, who carried off an immense booty. The Romans were in their turn expelled by the Goths: the Franks again invaded Italy, and made themselves masters of the province of Venetia; but at last the superior fortune of the emperor of Constantinople prevailed, and the Goths were finally subdued in 553. Narles, the conqueror of the Goths, governed Italy as a province of the eastern empire till the year 568, when Longinus his successor made considerable alterations. The Italian provinces had ever since the time of Constantine the Great been governed by *consulares*, *correctores*, and *praefides*; no alteration having been made either by the Roman emperors or the Gothic kings. But Longinus, being invested with absolute power by Justinian, suppressed those magistrates; and, instead of them, placed in each city of note a governor, whom he distinguished with the title of *duke*. The city of Rome was not more honoured than any other; for Longinus, having abolished the very name of *senate* and *consuls*, appointed a *duke* of Rome as well as of other cities. To himself he assumed the title of *exarch*; and, residing at Ravenna, his government was styled the *exarchate of Ravenna*. But while he was establishing this new empire, the greatest part of Italy was conquered by the Lombards.

In France a considerable revolution also took place. In 487, Clovis, the founder of the present French monarchy, possessed himself of all the countries lying between the Rhine and the Loire. By force or treachery, he conquered all the petty kingdoms which had been erected in that country. His dominions had been divided, reunited, and divided again; and were on the point of being united a second time, when the great impostor Mahomet began to make a figure in the world.

In Spain, the Visigoths erected a kingdom ten years before the conquest of Rome by the Heruli. This kingdom they had extended eastward, about the same time that Clovis was extending his conquests to the west; so that the two kingdoms met at the river Loire. The consequence of this approach of such barbarous conquerors towards each other was an immediate war. Clovis proved victorious, and subdued great part of the country of the Visigoths, which put a final stop to their conquests on that side.

Another kingdom had been founded in the western parts of Spain by the Suevi, a considerable time before the Romans were finally expelled from that country. In 409 this kingdom was entirely subverted by Theodoric king of the Goths; and the Suevi were so pent up in a small district of Lusitania and Galicia, that it seemed impossible for them to recover themselves. During the abovementioned period, however, while the attention of the Goths was turned another way, they had found means again to erect themselves into an independent state, and to become masters of considerably extended territories. But this success proved of short duration. In 584 the Goths attacked them; totally destroyed their empire a second time; and thus became masters of all Spain, except some small part which still owned subjection to the emperors.

42
Of Africa.

rors of Constantinople. Of this part, however, the Goths became masters also in the year 623; which concludes the 9th general period.

Africa, properly so called, had changed its masters three times during this period. The Vandals had expelled the Romans, and erected an independent kingdom, which was at last overturned by the emperors of Constantinople; and from them the greatest part of it was taken by the Goths in 620.

43
Tenth general period. Conquests of the Saracens.

10. At the commencement of the tenth general period (which begins with the flight of Mahomet in the year 622, from whence his followers date their era called the *Hegira*), we see every thing prepared for the great revolution which was now to take place: the Roman empire in the west annihilated; the Persian empire and that of Constantinople weakened by their mutual wars and intestine divisions; the Indians and other eastern nations unaccustomed to war, and ready to fall a prey to the first invader; the southern parts of Europe in a distracted and barbarous state; while the inhabitants of Arabia, from their earliest origin, accustomed to war and plunder, and now united by the most violent superstition and enthusiastic desire of conquest, were like a flood pent up, and ready to overwhelm the rest of the world.—The northern nations of Europe and Asia, however formidable in after-times, were at present unknown, and peaceable, at least with respect to their southern neighbours; so that there was in no quarter of the globe any power capable of opposing the conquests of the Arabs. With amazing celerity, therefore, they over-ran all Syria, Palestine, Persia, Bukharia, and India, extending their conquests farther to the eastward than ever Alexander had done. On the west side, their empire extended over Egypt, Barbary, and Spain, together with the islands of Sicily, Sardinia, Majorca, Minorca, &c. and many of the Archipelago islands: nor were the coasts of Italy itself free from their incursions; nay, they are even said to have reached the distant and barren country of Iceland. At last this great empire, as well as others, began to decline. Its ruin was very sudden, and owing to its internal divisions. Mahomet had not taken care to establish the apostleship in his family, or to give any particular directions about a successor. The consequence of this was, that the caliphate, or succession to the apostleship, was seized by many usurpers in different parts of the empire; while the true caliphs, who resided at Bagdad, gradually lost all power, and were regarded only as a kind of high-priests. Of these divisions the Turks took advantage to establish their authority in many provinces of the Mohammedan empire: but as they embraced the same religion with the Arabs, and were filled with the same enthusiastic desire of conquest, it is of little consequence to distinguish between them; as indeed it signified little to the world in general whether the Turks or Saracens were the conquerors, since both were cruel, barbarous, ignorant, and superstitious.

44
Of the Pope's temporal power.

While the barbarians of the east were thus grasping at the empire of the whole world, great disturbances happened among the no less barbarous nations of the west. Superstition seems to have been the ruling motive in both cases. The Saracens and Turks conquered for the glory of God, or of his apostle Mahomet and his successors; the western nations professed an e-

qual regard for the divine glory, but which was only to be perceived in the respect they paid to the pope and clergy. Ever since the establishment of Christianity by Constantine, the bishops of Rome had been gradually extending their power; and attempting not only to render themselves independent, but even to assume an authority over the emperors themselves. The destruction of the empire was so far from weakening their power, that it afforded them opportunities of greatly extending it, and becoming judges of the sovereigns of Italy themselves, whose barbarity and ignorance prompted them to submit to their decisions. All this time, however, they themselves had been in subjection to the emperors of Constantinople; but on the decline of that empire, they found means to get themselves exempted from this subjection. The principal authority in the city of Rome was then engrossed by the bishop; though of right it belonged to the duke appointed by the exarch of Ravenna. But tho' they had now little to fear from the eastern emperors, they were in great danger from the ambition of the Lombards, who aimed at the conquest of all Italy. This aspiring people the bishops of Rome determined to check; and therefore, in 726, when Luitprand king of the Lombards had taken Ravenna and expelled the exarch, the pope undertook to restore him. For this purpose he applied to the Venetians, who are now first mentioned in history as a state of any consequence; and by their means the exarch was restored. Some time before, a quarrel had happened between the pope (Gregory II.) and Leo emperor of the east, about the worship of images. Leo, who it seems, in the midst of so much barbarism, had still preserved some share of common sense and reason, reprobated the worship of images in the strongest terms, and commanded them to be destroyed throughout his dominions. The pope, whose cause was favoured by the most absurd superstitions, and by these only, refused to obey the emperor's commands. The exarch of Ravenna, as a subject of the emperor, was ordered to force the pope to a compliance, and even to seize or assassinate him in case of a refusal. This excited the pious zeal of Luitprand to assist the pope, whom he had formerly designed to subdue: the exarch was first excommunicated, and then torn in pieces by the enraged multitude: the duke of Naples shared the same fate; and a vast number of the *Iconoclasts*, or Image-breakers, as they were called, were slaughtered without mercy: and to complete all, the subjects of the exarchate, at the instigation of the pope, renounced their allegiance to the emperor.

Leo was no sooner informed of this revolt than he ordered a powerful army to be raised, in order to reduce the rebels, and take vengeance on the pope. Alarmed at these warlike preparations, Gregory looked round for some power on which he might depend for protection. The Lombards were possessed of sufficient force, but they were too near and too dangerous neighbours to be trusted; the Venetians, though zealous Catholics, were as yet unable to withstand the force of the empire; Spain was over-run by the Saracens: the French seemed, therefore, the only people to whom it was advisable to apply for aid; as they were able to oppose the emperor, and were likewise enemies to his edict. Charles Martel, who at that time

Civil
History.Civil
History.

time governed France as mayor of the palace, was therefore applied to; but before a treaty could be concluded, all the parties concerned were removed by death. Constantine Copronymus, who succeeded Leo at Constantinople, not only persisted in the opposition to image-worship, begun by his predecessor, but prohibited also the invocation of saints. Zachary, who succeeded Gregory III. in the pontificate, proved as zealous an adversary as his predecessors. Pepin, who succeeded Charles Martel in the sovereignty of France, proved as powerful a friend to the pope as his father had been. The people of Rome had nothing to fear from Constantinople; and therefore drove out all the emperor's officers. The Lombards, awed by the power of France, for some time allowed the pope to govern in peace the dominions of the exarchate; but in 752, Astolphus king of Lombardy not only reduced the greatest part of the pope's territories, but threatened the city of Rome itself. Upon this an application was made to Pepin, who obliged Astolphus to restore the places he had taken, and gave them to the pope, or, as he said, to St Peter. The Greek emperor, to whom they of right belonged, remonstrated to no purpose. The pope from that time became possessed of considerable territories in Italy; which, from the manner of their donation, go under the name of *St Peter's Patrimony*. It was not, however, before the year 774 that the pope was fully secured in these new dominions. This was accomplished when the kingdom of the Lombards was totally destroyed by Charlemagne, who was thereupon crowned king of Italy. Soon after, this monarch made himself master of all the Low Countries, Germany, and part of Hungary; and in the year 800, was solemnly crowned emperor of the west by the pope.

45
General
State of the
world.

Thus was the world once more shared among three great empires. The empire of the Arabs or Saracens extended from the river Ganges to Spain; comprehending almost all of Asia and Africa which has ever been known to Europeans, the kingdoms of China and Japan excepted. The eastern Roman empire was reduced to Greece, Asia Minor, and the provinces adjoining to Italy. The empire of the west under Charlemagne, comprehended France, Germany, and the greatest part of Italy. The Saxons, however, as yet possessed Britain unmolested by external enemies, tho' the seven kingdoms erected by them were engaged in perpetual contests. The Venetians also enjoyed a nominal liberty; though it is probable that their situation would render them very much dependent on the great powers which surrounded them. Of all nations on earth, the Scots and Picts, and the remote ones of China and Japan seem to have enjoyed, from their situation, the greatest share of liberty; unless, perhaps, we except the Scandinavians, who, under the names of *Danes* and *Normans*, were soon to infest their southern neighbours. But of all the European potentates, the popes certainly exercised the greatest authority; since even Charlemagne himself submitted to accept the crown from their hands, and his successors made them the arbiters of their differences.

Matters, however, did not long continue in this state. The empire of Charlemagne was on the death of his son Lewis divided among his three children. Endless disputes and wars ensued among them, till at

last the sovereign power was seized by Hugh Capet in 987. The Saxon heptarchy was dissolved in 827, and the whole kingdom of England reduced under one head. The Danes and Normans began to make depredations, and infest the neighbouring states. The former conquered the English Saxons, and seized the government, but were in their turn expelled by the Normans in 1066. In Germany and Italy the greatest disturbances arose from the contests between the popes and the emperors. To all this if we add the internal contests which happened through the ambition of the powerful barons of every kingdom, we can scarce form an idea of times more calamitous than those of which we now treat. All Europe, nay, all the world, was one great field of battle; for the empire of the Mahometans was not in a more settled state than that of the Europeans. Caliphs, sultans, emirs, &c. waged continual war with each other in every quarter; new sovereignties every day sprung up, and were as quickly destroyed. In short, thro' the ignorance and barbarity with which the whole world was overspread, it seemed in a manner impossible that the human race could long continue to exist; when happily the crusades, by directing the attention of the Europeans to one particular object, made them in some measure suspend their slaughters of one another.

11. The crusades originated from the superstition of the two grand parties into which the world was at that time divided, namely, the Christians and Mahometans. Both looked upon the small territory of Palestine, which they called the *Holy Land*, to be an invaluable acquisition, for which no sum of money could be an equivalent; and both took the most unjustifiable methods to accomplish their desires. The superstition of Omar the second caliph had prompted him to invade this country, part of the territories of the Greek emperor, who was doing him no hurt; and now when it had been so long under the subjection of the Mahometans, a similar superstition prompted the pope to send an army for the recovery of it. The crusaders accordingly poured forth in multitudes, like those with which the kings of Persia formerly invaded Greece; and their fate was pretty similar. Their impetuous valour at first, indeed, carried every thing before them: they recovered all Palestine, Phœnicia, and part of Syria, from the infidels; but their want of conduct soon lost what their valour had obtained, and very few of that vast multitude which had left Europe ever returned to their native countries. A second, a third, and several other crusades, were preached, and were attended with a like success in both respects: vast numbers took the cross, and repaired to the Holy Land; which they polluted by the most abominable massacres and treacheries, and from which very few of them returned. In the third crusade Richard I. of England was embarked, who seems to have been the best general that ever went into the east: but even his valour and skill were not sufficient to repair the faults of his companions; and he was obliged to return even after he had entirely defeated his antagonists, and was within sight of Jerusalem.

46
Eleventh
period.
The cru-
sades.

But while the Christians and Mahometans were thus superstitiously contending for a small territory in the western parts of Asia, the nations in the more easterly parts were threatened with total extermination. Jen-
ghiz-

47
Conquests
of the Mo-
guls.

Civil
History.

Jenghiz Khan, the greatest as well as the most bloody conqueror that ever existed, now makes his appearance. The rapidity of his conquests seemed to emulate those of Alexander the Great; and the cruelties he committed were altogether unparalleled. It is worth observing, that Jenghiz Khan and all his followers were neither Christians nor Mahometans, but strict deists. For a long time even the sovereign had not heard of a temple, or any particular place on earth appropriated by the deity to himself, and treated the notion with ridicule when it was first mentioned to him.

The Moguls, over whom Jenghiz Khan assumed the sovereignty, were a people of East Tartary, divided into a great number of petty governments as they are at this day, but who owned a subjection to one sovereign, whom they called *Vang-khan*, or the Great Khan. Temujin, afterwards *Jenghiz-Khan*, was one of these petty princes; but unjustly deprived of the greatest part of his inheritance at the age of 13, which he could not recover till he arrived at that of 40. This corresponds with the year 1201, when he totally reduced the rebels; and as a specimen of his lenity caused 70 of their chiefs to be thrown into as many caldrons of boiling water. In 1202, he defeated and killed Vang-khan himself (known to the Europeans by the name of *Prester John of Asia*); and possessing himself of his vast dominions, became from thenceforward altogether irresistible. In 1206, having still continued to enlarge his dominions, he was declared khan of the Moguls and Tartars; and took upon him the title of *Jenghiz Khan*, or *The most Great Khan of khans*. This was followed by the reduction of the kingdom of Hya in China, Tangut, Kitay, Turkestan, Karazm (the kingdom of *GAZNA* founded by Mahmud Gazni), Great Bukharia, Persia, and part of India; and all these vast regions were reduced in 26 years. The devastations and slaughters with which they were accompanied are unparalleled, no fewer than 14,470,000 persons being computed to have been massacred by Jenghiz Khan during the last 22 years of his reign. In the beginning of 1227 he died, thereby freeing the world from a most bloody tyrant. His successors completed the conquest of China and Korea; but were foiled in their attempts on Cochin-china, Tong-king, and Japan. On the western side the Tartar dominions were not much enlarged till the time of Hulaku, who conquered Media, Babylonia, Mesopotamia, Assyria, Syria, Georgia, Armenia, and almost all Asia Minor; putting an end to the empire of the Saracens by the taking of Bagdad in 1258.

The empire of Jenghiz Khan had the fate of all others. Being far too extensive to be governed by one head, it split into a multitude of small kingdoms, as it had been before his time. All these princes, however, owned allegiance to the family of Jenghiz Khan till the time of Timur Bek, or Tamerlane. The Turks, in the mean time, urged forward by the inundation of Tartars who poured in from the east, were forced upon the remains of the Greek empire; and at the time of Tamerlane above-mentioned, they had almost confined this once mighty empire within the walls of Constantinople.

48
Of Tamer-
lane.

In the year 1335, the family of Jenghiz Khan becoming extinct in Persia, a long civil war ensued; du-
N^o 155.

Civil
History.

ring which Timur Bek, one of the petty princes among which the Tartar dominions were divided, found means to aggrandize himself in a manner similar to what Jenghiz Khan had done about 150 years before. Jenghiz Khan, indeed, was the model whom he proposed to imitate; but it must be allowed that Timur was more merciful than Jenghiz Khan, if indeed the word can be applied to such inhuman tyrants. The plan on which Jenghiz Khan conducted his expeditions was that of total extermination. For some time he utterly extirpated the inhabitants of those places which he conquered, designing to people them anew with his Moguls; and in consequence of this resolution, he would employ his army in beheading 100,000 prisoners at once. Timur's cruelty, on the other hand, seldom went farther than the pounding of 3000 or 4000 people in large mortars, or building them among bricks and mortar into a wall. We must observe, however, that Timur was not a deist, but a Mahometan, and conquered expressly for the purpose of spreading the Mahometan religion; for the Moguls had now adopted all the superstitions and absurdities of Mahomet. Thus was all the eastern quarter of the world threatened anew with the most dreadful devastations, while the western nations were exhausting themselves in fruitless attempts to regain the Holy Land. The Turks were the only people who seem at this period to have been gathering strength, and by their perpetual encroachments threatened to swallow up the western nations as the Tartars had done the eastern ones.

In 1362, Timur invaded Bokharia, which he reduced in five years. He proceeded in his conquests, though not with the same celerity as Jenghiz Khan, till the year 1387, when he had subdued all Persia, Armenia, Georgia, Karazm, and great part of Tartary. After this he proceeded westward, subduing all the countries to the Euphrates; made himself master of Bagdad; and even entered Russia, where he pillaged the city of Moscow. From thence he turned his arms to the east, and totally subdued India. In 1393, he invaded and reduced Syria; and having turned his arms against the Turks, forced their sultan Bajazet to raise the siege of Constantinople. This brought on an engagement, in which Bajazet was entirely defeated and taken prisoner; which broke the power of the Turks to such a degree, that they were not for some time able to recover themselves. At last this great conqueror died in the year 1405, while on his way to conquer China, as Jenghiz Khan had done before him.

The death of Timur was followed almost immediately by the dissolution of his empire. Most of the nations he had conquered recovered their liberty. The Turks had now no further obstacle to their conquest of Constantinople. The western nations having exhausted themselves in the *holy wars*, as they were called, had lost that insatiable thirst after conquest which for so long time possessed the minds of men. They had already made considerable advances in civilization, and began to study the arts of peace. Gunpowder was invented, and its application to the purposes of war already known; and, though no invention threatened to be more destructive, perhaps none was ever more beneficial to the human race. By the use
of

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State of the
world since
that time.

of fire-arms, nations are put more on a level with each other than formerly they were; war is reduced to a regular system, which may be studied with as much success as any other science. Conquests are not now to be made with the same ease as formerly; and hence the last ages of the world have been much more quiet and peaceable than the former ones. In 1453, the conquest of Constantinople by the Turks fixed that wandering people to one place; and though now they possess very large regions both in Europe, Asia, and Africa, an effectual stop hath long been put to their further progress.

About this time, also, learning began to revive in Europe, where it had been long lost; and the invention of PRINTING, which happened about the same time, rendered it in a manner impossible for barbarism ever to take place in such a degree as formerly. All nations of the world, indeed, seem now at once to have laid aside much of their former ferocity; and, though wars have by no means been uncommon, they have not been carried on with such circumstances of fury and savage cruelty as before. Instead of attempting to enrich themselves by plunder, and the spoils of their neighbours, mankind in general have applied themselves to commerce, the only true and durable source of riches. This soon produced improvements in navigation; and these improvements led to the discovery of many regions formerly unknown. At the same time, the European powers, being at last thoroughly sensible that extensive conquests could never be permanent, applied themselves more to provide for the security of those dominions which they already possessed, than to attempt the conquest of one another: and this produced the policy to which so much attention was lately paid, namely, the *preserving of the balance of Europe*; that is, preventing any one of the nations from acquiring sufficient strength to overpower another.

In the end of the 15th century, the vast continent of America was discovered; and, almost at the same time, the passage to the East-Indies by the Cape of Good-Hope. The discovery of these rich countries gave a new turn to the ambition of the Europeans. To enrich themselves, either by the gold and silver produced in these countries, or by traffic with the natives, now became the object. The Portuguese had the advantage of being the first discoverers of the eastern, and the Spaniards of the western countries. The former did not neglect so favourable an opportunity of enriching themselves by commerce. Many settlements were formed by them in the East-India islands, and on the continent; but their avarice and perfidious behaviour towards the natives proved at last the cause of their total expulsion. The Spaniards enriched themselves by the vast quantities of the precious metals imported from America, which were not obtained but by the most horrid massacres committed on the natives, and of which an account is given under the different names of the American countries. These possessions of the Spaniards and Portuguese soon excited other European nations to make attempts to share with them in their treasures, by planting colonies in different parts of America, and making settlements in the East-Indies: and thus has the rage of war in some measure been transferred from Europe to these distant regions; and, after various contests, the British at last

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obtained a great superiority both in America and the East-Indies.

In Europe the only considerable revolutions which happened during this period, were, The total expulsion of the Moors and Saracens from Spain, by the taking of Grenada in 1491; the union of the kingdoms of Arragon and Castile, by the marriage of Ferdinand and Isabella; and the revolt of the states of Holland from the Spaniards. After much contention and bloodshed, these last obtained their liberty, and were declared a free people in 1609; since which time they have continued an independent and very considerable nation of Europe.

In Asia nothing of importance hath happened since the taking of Constantinople by the Turks. That continent is now divided among the following nations. The most northerly part, called *Siberia*, extending to the very extremity of the continent, is under the power of Russia. To the southward, from Asia Minor to China and Korea, are the Tartars, formidable indeed from their numbers, but, by reason of their barbarity and want of union, incapable of attempting any thing. The Turks possess the western part of the continent called *Asia Minor*, to the river Euphrates. The Arabs are again confined within their own peninsula; which they possess, as they have ever done, without owning subjection to any foreign power. To the east of Turkey in Asia lies Persia, now more confined in its limits than before; and to the eastward of Persia lies India, or the kingdom late of the Mogul, comprehending all the country from the Indus to the Ganges, and beyond that river. Still farther to the east lie the kingdoms of Siam, Pegu, Thibet, and Cochin-China, little known to the Europeans. The vast empire of China occupies the most easterly part of the continent; while that of Japan comprehends the islands which go by that name, and which are supposed to lie at no great distance from the western coasts of America.

In Africa the Turks possess Egypt, which they conquered in 1517, and have a nominal jurisdiction over the states of Barbary. The interior parts are filled with barbarous and unknown nations, as they have always been. On the western coasts are many settlements of the European nations, particularly the British and Portuguese; and the southern extremity is possessed by the Dutch. The eastern coasts are almost totally unknown. The Asiatic and African islands are either possessed by the Europeans, or inhabited by savage nations.

The European nations at the beginning of the 17th century were, Sweden, Muscovy, Denmark, Poland, Britain, Germany, Holland, France, Spain, Portugal, Italy, and Turkey in Europe. Of these the Russians, though the most barbarous, were by far the most considerable, both in regard to numbers and the extent of their empire; but their situation made them little feared by the others, who lay at a distance from them. The kingdom of Poland, which was first set up in the year 1000, proved a barrier betwixt Russia and Germany; and at the same time the policy above mentioned, of keeping up the balance of power in Europe, rendered it probable that no one European nation, whatever wars it might be engaged in, would have been totally destroyed, or ceased to exist

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as a distinct kingdom. The late dismemberment of Poland, however, or its partition between the three powers Russia, Hungary, and Prussia, was a step very inconsistent with the above political system; and it is surprising with what tameness it was acquiesced in by the other powers. Subsequent circumstances, particularly the passiveness with which the ambitious designs of Russia against the Porte have been so long beheld, seem to indicate a total dereliction of that scheme of equilibrium, formerly so wisely, though perhaps sometimes too anxiously, attended to.

The revolt of the British colonies in America, it was hoped by the enemies of Britain, would have given a fatal shock to her strength and wonted superiority. The consequences, however, have been very different. Those colonies, it is true, have been disjoined from the mother-country, and have attained an independent rank among the nations. But Britain has had no cause to repine at the separation. Divested only of a splendid encumbrance, an expensive and invidious appanage, she has been left to enjoy the undivided benefits of her native vigour, and to display new energies, which promise her mild empire a long and prosperous duration. On the other hand, the flame which was to have blazed only to her prejudice, has brought confusion on her chief foe; and the ambition and tyranny of that branch of the house of Bourbon which has been long the pest of Europe, now lie humbled in the dust. The French, indeed, have thus become a nation of freemen as well as ourselves, and as well as the Americans; who, by the way, were never otherwise, nor ever knew what oppression was except in inflicting it upon their African brethren. But neither is the French revolution an event which Britons, as lovers of liberty and friends to the rights of mankind, should regret; or which, even in a political view, if duly considered, ought to excite either their jealousy or apprehension. In fine, we seem to be advancing to a great era in the history of human affairs. The emancipation of France, it is not to be doubted, will in time be followed by that of Spain and other countries of Europe. The papal power, too, that scourge of nations, is declining; and the period seems to be approaching when the Roman pontiff will be reduced to his original and simple title of *bishop of Rome*. More liberal ideas both in politics and religion are every where gaining ground. The regulation, and perhaps in time the abolition, of the slave-trade, with the endeavours of the societies for discovering Africa, may lead to the civilization of some parts of that immense continent, and open new markets for our manufactures. Finally, the Americans approach fast to a settled government; and will probably then become a great commercial people.

SECT. II. Ecclesiastical History.

50
Revolutions in religion seldom happen.

THE history of religion, among all the different nations that have existed in the world, is a subject no less important and interesting than that of civil history. It is, however, less fertile of great events, affords an account of fewer revolutions, and is much more uniform, than civil history. The reason of this is plain. Religion is conversant about things which cannot be seen; and which of consequence cannot suddenly and strongly affect the senses of mankind, as

natural things are apt to do. The expectation of worldly riches can easily induce one nation to attack another; but it is not easy to find any thing which will induce a nation to change its religion. The invisible nature of spiritual things, the prejudice of habit and of early education, all stand in the way of changes of this kind. Hence the revolutions in religion have been but few, and the duration of almost any religion of longer standing than the most celebrated empires; the changes which have happened, in general have acquired a long time to bring them about, and history scarce affords an instance of the religion of any nation being essentially and suddenly changed for another.

With regard to the origin of religion, we must have recourse to the Scriptures; and are as necessarily constrained to adopt the account there given, as we are to adopt that of the creation given in the same book; namely, because no other hath made its appearance which seems in any degree rational, or consistent with itself.—In what manner the true religion given to Adam was falsified or corrupted by his descendants before the flood, doth not clearly appear from Scripture. Idolatry is not mentioned: nevertheless we are assured that the inhabitants of the world were then exceedingly wicked; and as their wickedness did not consist in worshipping false gods, it may be concluded that they worshipped none at all; i. e. that the crime of the antediluvians was deism or atheism.

After the flood, idolatry quickly made its appearance; but what gave rise to it is not certainly known. ⁵¹Origin of idolatry. This superstition indeed seems to be natural to man, especially when placed in such a situation that he hath little opportunity of instruction, or of improving his rational faculties. This seems also probable from a caution given to the Jews, lest, when they looked up to the sun, moon, and stars, and the rest of the host of heaven, they should be *driven to worship them*. The origin of idolatry among the Syrians and Arabians, and also in Greece, is therefore accounted for with great probability in the following manner by the author of *The Ruins of Balbeck*. “In those uncomfortable deserts, where the day presents nothing to the view but the uniform, tedious, and melancholy prospect of barren sands, the night discloses a most delightful and magnificent spectacle, and appears arrayed with charms of the most attractive kind. For the most part unclouded and serene, it exhibits to the wondering eye the host of heaven in all their variety and glory. In the view of this stupendous scene, the transition from admiration to idolatry was too easy to uninstructed minds; and a people whose climate offered no beauties to contemplate but those of the firmament, would naturally look thither for the objects of their worship. The form of idolatry in Greece was different from that of the Syrians; which perhaps may be attributed to that smiling and variegated scene of mountains, valleys, rivers, woods, groves, and fountains, which the transported imagination, in the midst of its pleasing astonishment, supposed to be the seats of invisible deities.”

A difficulty, however, arises on this supposition; for if idolatry is naturally produced in the mind of uninstructed and savage man from a view of the creation, why hath not idolatry of some kind or other taken

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taken place among all the different nations of the world? This certainly hath not been the case; of which the most striking examples are the Persians of old, and the Moguls in more modern times. Both these nations were strict deists: so that we must allow some other causes to concur in producing idolatry besides these already mentioned; and of these causes an imperfect and obscure notion of the true religion seems to be the most probable.

52
General account of the Heathen superstitions.

Though idolatry, therefore, was formerly very prevalent, it neither extended over the whole earth, nor were the superstitions of the idolaters all of one kind. Every nation had its respective gods, over which one more excellent than the rest was said to preside; yet in such a manner, that this supreme deity himself was controuled by the rigid empire of the fates, or by what philosophers called *eternal necessity*. The gods of the east were different from those of the Gauls, the Germans, and the other northern nations. The Grecian divinities differed widely from those of the Egyptians, who deified plants, animals, and a great variety of the productions both of nature and art. Each people also had their own particular manner of worshipping and appeasing their respective deities, entirely different from the sacred rites of other countries. All this variety of religions, however, produced neither wars nor dissensions among the different nations; each nation suffered its neighbours to follow their own method of worship, without discovering any displeasure on that account. There is nothing surprising in this mutual toleration, when we consider, that they all looked upon the world as one great empire, divided into various provinces, over each of which a certain order of divinities presided; for which reason they imagined that none could behold with contempt the gods of other nations, or force strangers to pay homage to theirs.---The Romans exercised this toleration in the most ample manner; for though they would not allow any change to be made in the religions that were publicly professed in the empire, nor any new form of worship to be openly introduced, yet they granted to their citizens a full liberty of observing in private the sacred rites of other nations, and of honouring foreign deities as they thought proper.

The heathen deities were honoured with rites and sacrifices of various kinds, according to their respective natures and offices. Their rites were absurd and ridiculous; while the priests, appointed to preside over this strange worship, abused their authority, by deceiving and imposing upon the people in the grossest manner.

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State of religion at the appearance of Christ.

From the time of the flood to the coming of Christ, idolatry prevailed among almost all the nations of the world, the Jews alone excepted; and even they were on all occasions ready to run into it, as is evident from their history in the Old Testament. At the time of Christ's appearance, the religion of the Romans, as well as their empire, extended over a great part of the world. Some people there were among the heathens who perceived the absurdities of that system; but being destitute of means, as well as of abilities, to effect a reformation, matters went on in their old way. Though there were at that time various sects of philosophers, yet all of them proceeded upon false principles, and consequently could be of

no service to the advancement or reformation of religion. Nay, some, among whom were the Epicureans and Academics, declared openly against every kind of religion whatever.

Two religions at this time flourished in Palestine, viz. The Jewish and Samaritan; between whose respective followers reigned the most violent hatred and contempt. The difference between them seems to have been chiefly about the place of worship; which the Jews would have to be in Jerusalem, and the Samaritans on mount Gerizzim. But though the Jews were certainly right as to this point, they had greatly corrupted their religion in other respects. They expected a Saviour indeed, but they mistook his character; imagining that he was to be a powerful and warlike prince, who should set them free from the Roman yoke, which they bore with the utmost impatience. They also imagined that the whole of religion consisted in observing the rites of Moses, and some others which they had added to them, without the least regard to what is commonly called *morality* or *virtue*; as is evident from the many charges our Saviour brings against the Pharisees, who had the greatest reputation for sanctity among the whole nation. To these corrupt and vicious principles they added several absurd and superstitious notions concerning the divine nature, invisible powers, magic, &c. which they had partly imbibed during the Babylonian captivity, and partly derived from their neighbours in Arabia, Syria, and Egypt. The principal sects among them were the ESSENES or Essenians, PHARISEES, and SADUCEES. The Samaritans, according to the most general opinion, had corrupted their religion still more than the Jews.

When the true religion was preached by the Saviour of mankind, it is not to be wondered at if he became on that account obnoxious to a people so deeply sunk in corruption and ignorance as the Jews then were. It is not here requisite to enter into the particulars of the doctrine advanced by him, or of the opposition he met with from the Jews; as a full account of these things, and likewise of the preaching of the gospel by the Apostles, may be found in the New Testament.—The rapid progress of the Christian religion, under these faithful and inspired ministers, soon alarmed the Jews, and raised various persecutions against its followers. The Jews, indeed, seem at first to have been every where the chief promoters of persecution; for we find that they officiously went from place to place, wherever they heard of the increase of the gospel, and by their calumnies and false suggestions endeavoured to excite the people against the Apostles. The Heathens, however, though at first they showed no very violent spirit of persecution against the Christians, soon came to hate them as much as the Jews themselves. Tacitus acquaints us with the causes of this hatred, when speaking of the first general persecution under Nero. That inhuman emperor having, as was supposed, set fire to the city of Rome, to avoid the imputation of this wickedness, transferred it on the Christians. Our author informs us that they were already

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Tacitus's account of the first persecution by Nero.

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pestilent superstition was for a while suppressed: but it revived again, and spread, not only over Judæa, where this evil was first broached, but reached Rome, whither from every quarter of the earth is constantly flowing whatever is hideous and abominable amongst men, and is there readily embraced and practised. First, therefore, were apprehended such as openly avowed themselves to be of that sect; then by them were discovered an immense multitude; and all were convicted, not of the crime of burning Rome, but of hatred and enmity to mankind. Their death and tortures were aggravated by cruel derision and sport; for they were either covered with the skins of wild beasts and torn in pieces by devouring dogs, or fastened to crosses, or wrapped up in combustible garments, that, when the day-light failed, they might, like torches, serve to dispel the darkness of the night. Hence, towards the miserable sufferers, however guilty and deserving the most exemplary punishment, compassion arose; seeing they were doomed to perish, not with a view to the public good, but to gratify the cruelty of one man."

That this account of Tacitus is downright misrepresentation and calumny, must be evident to every one who reads it. It is impossible that any person can be convicted of hatred and enmity to mankind, without specifying a number of facts by which this hatred shewed itself. The burning of Rome would indeed have been a very plain indication of enmity to mankind; but of this Tacitus himself clears them, and mentions no other crime of which they were guilty. It is probable, therefore, that the only reason of this charge against the Christians, was their absolute refusal to have any share in the Roman worship, or to countenance the absurd superstitions of Paganism in any degree.

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Second per-
secution.

The persecution under Nero was succeeded by another under Domitian; during which the Apostle John was banished to Patmos, where he saw the visions, and wrote the book called his *Revelations*, which completes the canon of Scripture. This persecution commenced in the 95th year of the Christian era; and John is supposed to have written his Revelation the year after, or in the following one.

During the first century, the Christian religion spread over a great number of different countries; but as we have now no authentic records concerning the travels of the Apostles, or the success which attended them in their ministry, it was impossible to determine how far the gospel was carried during this period. We are, however, assured, that even during this early period many corruptions were creeping in, the progress of which was with difficulty prevented even by the apostles themselves. Some corrupted their profession by a mixture of Judaism, others by mixing it with the oriental philosophy; while others were already attempting to deprive their brethren of liberty, setting themselves up as eminent pastors, in opposition even to the apostles, as we learn from the epistles of St Paul, and the third epistle of St John. Hence arose the sects of the Gnostics, Cerinthians, Nicolaitans, Nazarenes, Ebionites, &c. with which the church was troubled during this century.

Concerning the ceremonies and method of worship used by the Christians of the first century, it is impos-

sible to say any thing with certainty. Neither is the church order, government, and discipline, during this period, ascertained with any degree of exactness. Each of those parties, therefore, which exist at this day, contends with the greatest earnestness for that particular mode of worship which they themselves have adopted; and some of the most bigoted would willingly monopolize the word *church* in such a manner as to exclude from all hope of salvation every one who is not attached to their particular party. It doth not however appear that, excepting baptism, the Lord's supper, and anointing the sick with oil, any external ceremonies or symbols were properly of divine appointment. According to Dr Mosheim, "there are several circumstances which incline us to think, that the friends and apostles of our blessed Lord either tolerated through necessity, or appointed for wise reasons, many other external rites in various places. At the same time, we are not to imagine, that they ever conferred upon any person a perpetual, indelible, pontifical authority, or that they enjoined the same rites in all churches. We learn, on the contrary, from authentic records, that the Christian worship was from the beginning celebrated in a different manner in different places; and that, no doubt, by the orders, or at least with the approbation, of the apostles and their disciples. In those early times, it was both wise and necessary to shew, in the establishment of outward forms of worship, some indulgence to the ancient opinions, manners, and laws, of the respective nations to whom the gospel was preached."

The second century commences with the third year³⁶ of the emperor Trajan. The Christians were still per-^{History of}secuted; but as the Roman emperors were for the most^{the second} century. part of this century princes of a mild and moderate turn, they persecuted less violently than formerly. Marcus Aurelius, notwithstanding the clemency and philosophy for which he is so much celebrated, treated the Christians worse than Trajan, Adrian, or even Severus himself did, who was noted for his cruelty. This respite from rigorous persecution proved a very favourable circumstance for the spreading of the Christian religion; yet it is by no means easy to point out the particular countries through which it was diffused. We are, however, assured, that in the second century, Christ was worshipped as God almost through the whole east; as also among the Germans, Spaniards, Celtes, and many other nations: but which of them received the gospel in the first century, and which in the second, is a question unanswerable at this distance of time. The writers of this century attribute the rapid progress of Christianity chiefly to the extraordinary gifts that were imparted to the first Christians, and the miracles which were wrought at their command; without supposing that any part of the success ought to be ascribed to the intervention of human means, or secondary causes. Many of the moderns, however, are so far from being of this opinion, that they are willing either to deny the authenticity of all miracles said to have been wrought since the days of the apostles, or to ascribe them to the power of the devil. To enter into the particulars of this controversy is foreign to our present purpose; for which reason we must refer to the writers of polemic divinity, who have largely treated of this and other points of a similar nature.

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57
Ceremonies multiplied.

The corruptions which had been introduced in the first century, and which were almost coeval with Christianity itself, continued to gain ground in the second. Ceremonies, in themselves futile and useless, but which must be considered as highly pernicious when joined to a religion incapable of any other ornament than the upright and virtuous conduct of its professors, were multiplied for no other purpose than to please the ignorant multitude. The immediate consequence of this was, that the attention of Christians was drawn aside from the important duties of morality; and they were led to imagine, that a careful observance of the ceremonies might make amends for the neglect of moral duties. This was the most pernicious opinion that could possibly be entertained; and was indeed the very foundation of that enormous system of ecclesiastical power which afterwards took place, and held the whole world in slavery and barbarism for many ages.

58
Mysteries introduced.

Another mischief was the introduction of *mysteries*, as they were called, into the Christian religion; that is, insinuating that some parts of the worship in common use had a hidden efficacy and power far superior to the plain and obvious meaning assigned to them by the vulgar: and by paying peculiar respect to these mysteries, the pretended teachers of the religion of Jesus accommodated their doctrines to the taste of their heathen neighbours, whose religion consisted in a heap of mysteries, of which nobody knew the meaning.

59
The teachers assume a power over the people.

By these, and other means of a similar kind, the Christian pastors greatly abridged the liberty of their flock. Being masters of the ceremonies and mysteries of the Christian religion, they had it in their power to make their followers worship and believe whatever they thought proper; and this they did not fail to make use of for their own advantage. They persuaded the people, that the ministers of the Christian church succeeded to the character, rights, and privileges, of the Jewish priesthood; and accordingly the bishops considered themselves as invested with a rank and character similar to those of the high-priest among the Jews, while the presbyters represented the priests, and the deacons the Levites. This notion, which was first introduced in the reign of Adrian, proved a source of very considerable honour and profit to the clergy.

60
Form of church government.

The form of ecclesiastical government was in this century rendered permanent and uniform. One inspector or bishop presided over each Christian assembly, to which office he was elected by the voices of the whole people. To assist him in his office, he formed a council of presbyters, which was not confined to any stated number. To the bishops and presbyters the ministers or *deacons* were subject; and the latter were divided into a variety of classes, as the different exigencies of the church required. During a great part of this century, the churches were independent of each other; nor were they joined together by association, confederacy, or any other bonds but those of charity. Each assembly was a little state governed by its own laws; which were either enacted, or at least approved of, by the society. But in process of time all the Christian churches of a province were formed into one large ecclesiastical body, which, like confederate states, assembled at certain times, in order to deliberate about the common interests of the whole. This institution had its origin among the Greeks; but in a short time

it became universal, and similar assemblies were formed in all places where the gospel had been planted. These assemblies, which consisted of the deputies or commissioners from several churches, were called *synods* by the Greeks, and *councils* by the Latins; and the laws enacted in these general meetings were called *canons*, i. e. *rules*.

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These councils, of which we find not the smallest trace before the middle of this century, changed the whole face of the church, and gave it a new form; for by them the ancient privileges of the people were considerably diminished, and the power and authority of the bishops greatly augmented. The humility, indeed, and prudence, of these pious prelates hindered them from assuming all at once the power with which they were afterwards invested. At their first appearance in these general councils, they acknowledged that they were no more than the delegates of their respective churches, and that they acted in the name and by the appointment of their people. But they soon changed this humble tone; imperceptibly extended the limits of their authority; turned their influence into dominion, their counsels into laws; and at length openly asserted, that Christ had empowered them to prescribe to his people *authoritative rules of faith and manners*. Another effect of these councils was the gradual abolition of that perfect equality which reigned among all bishops in the primitive times: for the order and decency of these assemblies required, that some one of the provincial bishops met in council should be invested with a superior degree of power and authority; and hence the rights of Metropolitans derive their origin. In the mean time, the bounds of the church were enlarged; the custom of holding councils was followed wherever the sound of the gospel had reached; and the universal church had now the appearance of one vast republic formed by a combination of a great number of little states. This occasioned the creation of a new order of ecclesiastics, who were appointed in different parts of the world as heads of the church, and whose office it was to preserve the consistence and union of that immense body, whose members were so widely dispersed throughout the nations. Such was the nature and office of the *Patriarchs*; among whom, at length, ambition, being arrived at its most insolent period, formed a new dignity, investing the bishop of Rome with the title and authority of the *Prince of the Patriarchs*.

61
Changes produced by the institution of councils.

During the second century, all the sects continued which had sprung up in the first, with the addition of several others; the most remarkable of which were the *Ascetics*. These owed their rise to an error propagated by some doctors of the church, who asserted that Christ had established a *double rule of sanctity and virtue* for two different orders of Christians. Of these rules, one was ordinary, the other extraordinary; the one of a lower dignity, the other more sublime: the first for persons in the active scenes of life; the other for those who, in a sacred retreat, aspired after the glory of a celestial state. In consequence of this system, they divided into two parts all those moral doctrines and instructions which they had received either by writing or tradition. One of these divisions they called *precepts*, and the other *counsels*. They gave the name of *precepts* to those laws that were universally obligatory

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Account of the Ascetics.

tory upon all orders of men; and that of *counsels* to those which related to Christians of a more sublime rank, who proposed to themselves great and glorious ends, and breathed after an intimate communion with the Supreme Being.—Thus were produced all at once a new set of men, who made pretensions to uncommon sanctity and virtue, and declared their resolution of obeying all the *precepts* and *counsels* of Christ, in order to their enjoyment of communion with God here, and also that, after the dissolution of their mortal bodies, they might ascend to him with the greater facility, and find nothing to retard their approach to the centre of happiness and perfection. They looked upon themselves as prohibited from the use of things which it was lawful for other Christians to enjoy; such as wine, flesh, matrimony, and commerce. They thought it their indispensable duty to extenuate their body by watchings, abstinence, labour, and hunger. They looked for felicity in solitary retreats, and desert places; where, by severe and assiduous efforts of sublime meditation, they raised the soul above all external objects, and all sensual pleasures. They were distinguished from other Christians, not only by their title of *Ascetics*, *Σπυδαῖοι*, *Εκλεκτοί*, and philosophers, but also by their garb. In this century, indeed, those who embraced such an austere kind of life, submitted themselves to all these mortifications in private, without breaking asunder their social bands, or withdrawing themselves from mankind; but in process of time they retired into deserts, and, after the example of the Essenes and Therapeutæ, they formed themselves into certain companies.

This austere sect arose from an opinion which has been more or less prevalent in all ages and in all countries, namely, that religion consists more in prayers, meditations, and a kind of secret intercourse with God, than in fulfilling the social duties of life in acts of benevolence and humanity to mankind. Nothing can be more evident than that the Scripture reckons the fulfilling of these infinitely superior to the observance of all the ceremonies that can be imagined: yet it somehow or other happens, that almost every body is more inclined to observe the ceremonial part of devotion than the moral; and hence, according to the different humours or constitutions of different persons, there have been numberless forms of Christianity, and the most virulent contentions among those who professed themselves followers of the Prince of Peace. It is obvious, that if the moral conduct of Christians was to be made the standard of faith, instead of speculative opinions, all these divisions must cease in a moment; but while Christianity, or any part of it, is made to consist in speculation, or the observance of ceremonies, it is impossible there can be any end of sects or heresies. No opinion whatever is so absurd, but some people have pretended to argue in its defence; and no ceremony so insignificant, but it hath been explained and sanctified by hot-headed enthusiasts: and hence ceremonies, sects, and absurdities, have been multiplied without number, to the prejudice of society and of the Christian religion. This short relation of the rise of the Ascetic sect will also serve to account for the rise of any other; so that we apprehend it is needless to enter into particulars concerning the rest, as they all took their origin from the same

general principle variously modified, according to the different dispositions of mankind.

The Ascetic sect began first in Egypt, from whence it passed into Syria and the neighbouring countries. At length it reached the European nations: and hence that train of austere and superstitious vows and rites which totally obscured, or rather annihilated, Christianity; the celibacy of the clergy, and many other absurdities of the like kind. The errors of the Ascetics, however, did not stop here: In compliance with the doctrines of some Pagan philosophers, they affirmed, that it was not only lawful, but even praiseworthy, to deceive, and to use the expedient of a lie, in order to advance the cause of piety and truth; and hence the *pious frauds* for which the church of Rome hath been so notorious, and with which she hath been so often and justly reproached.

As Christians thus deviated more and more from the true practice of their religion, they became more zealous in the external profession of it. Anniversary festivals were celebrated in commemoration of the death and resurrection of Christ, and of the effusion of the Holy Ghost on the apostles. Concerning the days on which these festivals were to be kept, there arose violent contests. The Asiatic churches in general differed in this point from those of Europe; and towards the conclusion of the second century, Victor bishop of Rome took it in his head to force the eastern churches to follow the rules laid down by the western ones. This they absolutely refused to comply with: upon which Victor cut them off from communion with the church of Rome; though, by means of the intercession of some prudent people, the difference was made up for the present.

During most of the third century, the Christians were allowed to enjoy their religion, such as it was, without molestation. The emperors Maximinus and Decius, indeed, made them feel all the rigours of a severe persecution; but their reigns were short, and from the death of Decius to the time of Dioclesian the church enjoyed tranquillity. Thus vast multitudes were converted; but at the same time, the doctrine grew daily more corrupt, and the lives of professed Christians more wicked and scandalous. New ceremonies were invented in great numbers, and an unaccountable passion now prevailed for the oriental superstitions concerning demons; whence proceeded the whole train of exorcisms, spells, and fears for the apparition of evil spirits, which to this day are nowhere eradicated. Hence also the custom of avoiding all connections with those who were not baptised, or who lay under the penalty of excommunication, as persons supposed to be under the dominion of some evil spirit. And hence the rigour and severity of that discipline and penance imposed upon those who had incurred, by their immoralities, the censures of the church.—Several alterations were now made in the manner of celebrating the Lord's supper. The prayers used on this occasion were lengthened, and the solemnity and pomp with which it was attended were considerably increased. Gold and silver vessels were used in the celebration; it was thought essential to salvation, and for that reason administered even to infants.—Baptism was celebrated twice a-year to such as, after a long course of trial and preparation, offered themselves candidates.

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The remission of sins was thought to be its immediate consequence; while the bishop, by prayer and imposition of hands, was supposed to confer those sanctifying gifts of the Holy Ghost that are necessary to a life of righteousness and virtue. An evil demon was supposed naturally to reside in every person, who was the author and source of all the corrupt dispositions and unrighteous actions of that person. The driving out of this demon was therefore an essential requisite for baptism; and, in consequence of this opinion, the baptized persons returned home clothed in white garments, and adorned with crowns, as sacred emblems, the former of their inward purity and innocence, and the latter of their victory over sin and the world.—Fasting began now to be held in more esteem than formerly. A high degree of sanctity was attributed to this practice; it was even looked upon as indispensably necessary, from a notion that the demons directed their force chiefly against those who pampered themselves with delicious fare, and were less troublesome to the lean and hungry who lived under the severities of a rigorous abstinence.—The sign of the cross also was supposed to administer a victorious power over all sorts of trials and calamities; and was more especially considered as the surest defence against the snares and stratagems of malignant spirits: for which reason, no Christian undertook any thing of moment, without arming himself, as he imagined, with the power of this triumphant sign. The heresies which troubled the church during this century, were the Gnostics, (whose doctrines were new-modelled and improved by Manes, from whom they were afterwards chiefly called *Manicheans*), the Hieracites, Noetians, Sabelians, and Novatians; for a particular account of which, see those articles.

65
Fourth century.

The fourth century is remarkable for the establishment of Christianity by law in the Roman empire; which, however, did not take place till the year 324. In the beginning of the century, the empire was governed by four chiefs, viz. Dioclesian, Maximian, Constantius Chlorus, and Galerius, under whom the church enjoyed a perfect toleration. Dioclesian, tho' much addicted to superstition, had no ill-will against the Christians; and Constantius Chlorus, having abandoned polytheism, treated them with condescension and benevolence. This alarmed the Pagan priests, whose interests were so closely connected with the continuance of the ancient superstitions; and who apprehended, not without reason, that the Christian religion would at length prevail throughout the empire. To prevent the downfall of the Pagan superstition, therefore, they applied to Dioclesian and Galerius Cæsar; by whom a most bloody persecution was commenced in the year 303, and continued till 311. An asylum, however, was opened for the Christians in the year 304. Galerius having dethroned Dioclesian and Maximian, declared himself emperor in the east; leaving all the western provinces, to which great numbers of Christians resorted to avoid the cruelty of the former, to Constantius Chlorus. At length Galerius, being overtaken with an incurable and dreadful disease, published an edict ordering the persecution to cease, and restoring freedom to the Christians, whom he had most inhumanly oppressed for eight years. Galerius died the same year: and in a short time af-

ter, when Constantine the Great ascended the throne, the Christians were freed from any farther uneasiness, by his abrogating all the penal laws against them; and afterwards issuing edicts, by which no other religion than the Christian was tolerated throughout the empire.

This event, however, so favourable to the outward peace of the church, was far from promoting its internal harmony, or the reformation of its leaders. The clergy, who had all this time been augmenting their power at the expence of the liberty of the people, now set no bounds to their ambition. The bishop of Rome was the first in rank, and distinguished by a sort of pre-eminency above the rest of the prelates. He surpassed all his brethren in the magnificence and splendor of the church over which he presided, in the riches of his revenues and possessions, in the number and variety of his ministers, in his credit with the people, and in his sumptuous and splendid manner of living. Hence it happened, that when a new pontiff was to be chosen by the presbyters and people, the city of Rome was generally agitated with dissensions, tumults, and cabals, which often produced fatal consequences. The intrigues and disturbances which prevailed in that city in the year 366, when, upon the death of Liberius, another pontiff was to be chosen in his place, are a sufficient proof of what we have advanced. Upon this occasion, one faction elected Damasus to that high dignity; while the opposite party chose Ursicinus, a deacon of the vacant church, to succeed Liberius. This double election gave rise to a dangerous schism, and to a sort of civil war within the city of Rome; which was carried on with the utmost barbarity and fury, and produced the most cruel massacres and desolations. The inhuman contest ended in the victory of Damasus; but whether his cause was more just than that of Ursicinus, is not so easily determined.

Notwithstanding the pomp and splendor which surrounded the Roman see, it is certain that the bishops of Rome had not yet acquired that pre-eminence of power and jurisdiction which they afterwards enjoyed. In the ecclesiastical commonwealth, indeed, they were the most eminent order of citizens; but still they were citizens as well as their brethren, and subject, like them, to the laws and edicts of the emperors. All religious causes of extraordinary importance were examined and determined, either by judges appointed by the emperors, or in councils assembled for that purpose; while those of inferior moment were decided in each district by its respective bishop. The ecclesiastical laws were enacted either by the emperor or councils. None of the bishops acknowledged that they derived their authority from the permission and appointment of the bishop of Rome, or that they were created bishops by the favour of the *apostolic see*. On the contrary, they all maintained that they were the ambassadors and ministers of Jesus Christ, and that their authority was derived from above. It must, however, be observed, that even in this century several of those steps were laid by which the bishops of Rome mounted afterwards to the summit of ecclesiastical power and despotism. This happened partly by the imprudence of the emperors, partly by the dexterity of the Roman prelates themselves, and partly by the inconsiderate

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66
Christianity established by Constantine.67
Increase of its corruptions.

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rate zeal and precipitate judgment of certain bishops. The imprudence of the emperor, and precipitation of the bishops, were remarkably discovered in the following event, which favoured extremely the ambition of the Roman pontiff. About the year 372, Valentinian enacted a law, empowering the bishop of Rome to examine and judge other bishops, that religious disputes might not be decided by any profane or secular judges. The bishops assembled in council at Rome in 378, not considering the fatal consequences that must arise from this imprudent law both to themselves and to the church, declared their approbation in the strongest terms, and recommended the execution of it in their address to the emperor Gratian. Some think, indeed, that this law empowered the Roman bishop to judge only the bishops within the limits of his jurisdiction; others, that his power was given only for a certain time, and for a particular purpose. This last notion seems the most probable; but still this privilege must have been an excellent instrument in the hands of sacerdotal ambition.

68
Bishops of Rome and Constantinople rival each other.

By the removal of the seat of empire to Constantinople, the emperor raised up, in the bishop of this new metropolis, a formidable opponent to the bishop of Rome, and a bulwark which threatened a vigorous opposition to his growing authority. For as the emperor, in order to render Constantinople a second Rome, enriched it with all the rights and privileges, honours and ornaments, of the ancient capital of the world; so its bishop, measuring his own dignity and rank by the magnificence of the new city, and its eminence as the residence of the emperor, assumed an equal degree of dignity with the bishop of Rome, and claimed a superiority over the rest of the episcopal order. Nor did the emperors disapprove of these high pretensions, since they considered their own dignity as connected in a certain measure with that of the bishop of their imperial city. Accordingly, in a council held at Constantinople in the year 381, by the authority of Theodosius the Great, the bishop of that city was, during the absence of the bishop of Alexandria, and against the consent of the Roman prelate, placed by the third canon of that council in the first rank after the bishop of Rome, and consequently above those of Alexandria and Antioch. Nestorius was the first bishop who enjoyed these new honours accumulated upon the see of Constantinople. His successor, the celebrated John Chrysostom, extended still farther the privileges of that see, and submitted to its jurisdiction all Thrace, Asia, and Pontus; nor were the succeeding bishops of that imperial city destitute of a fervent zeal to augment their privileges and extend their dominion. By this unexpected promotion, the most disagreeable effects were produced. The bishops of Alexandria were not only filled with the most inveterate hatred against those of Constantinople, but a contention was excited between the bishops of Rome and Constantinople; which, after being carried on for many ages, concluded at last in the separation of the Greek and Latin churches.

69
Form of church government established by Constantine.

Constantine the Great, in order to prevent civil commotions, and to fix his authority on a stable and solid foundation, made several changes not only in the laws of the empire, but also in the form of the Roman government. And as there were many important reasons

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which induced him to suit the administration of the church to these changes in the civil constitution, this necessarily introduced among the bishops new degrees of eminence and rank. The four bishops, of Rome, Constantinople, Antioch, and Alexandria, were distinguished by a certain degree of pre-eminence over the rest. These four prelates answered to the four prætorian prefects created by Constantine; and it is possible, that even in this century they were distinguished by the Jewish title of *patriarchs*. After these followed the *exarchs*, who had the inspection of several provinces, and answered to the appointment of certain civil officers who bore the same title. In a lower class were the *metropolitans*, who had only the government of one province; under whom were the *archbishops*, whose inspection was confined to certain districts. In this gradation the *bishops* brought up the rear; but the sphere of their authority was not in all places equally extensive; being in some considerably ample, and in others confined within narrow limits. To these various ecclesiastical orders we might add that of the *chorepiscopi*, or superintendents of the country-churches; but this last order was in most places suppressed by the bishops, with a design to extend their own authority, and enlarge the sphere of their power and jurisdiction. The administration of the church itself was divided by Constantine into an *external* and *internal* inspection. The latter, which was committed to bishops and councils, related to religious controversies, the forms of divine worship, the offices of priests, the vices of the ecclesiastical orders, &c. The external administration of the church the emperor assumed to himself. This comprehended all those things which related to the outward state and discipline of the church; it likewise extended to all contests that should arise between the ministers of the church, superior as well as inferior, concerning their possessions, their reputation, their rights and privileges, their offences against the laws, &c. but no controversies that related to matters purely spiritual were cognizable by this external inspection. In consequence of this artful division of the ecclesiastical government, Constantine and his successors called councils, presided in them, appointed the judges of religious controversies, terminated the differences which arose between the bishops and the people, fixed the limits of the ecclesiastical provinces, took cognizance of the civil causes that subsisted between the ministers of the church, and punished the crimes committed against the laws by the ordinary judges appointed for that purpose; giving over all causes purely ecclesiastical to the bishops and councils. But this famous division of the administration of the church was never explained with sufficient accuracy; so that both in the fourth and fifth centuries, there are frequent instances of the emperors determining matters purely ecclesiastical, and likewise of bishops and councils determining matters which related merely to the external form and government of the church.

After the time of Constantine many additions were made by the emperors and others to the wealth and lives of the honours of the clergy; and these additions were followed by a proportionable increase of their vices and luxury, particularly among those who lived in great and opulent cities. The bishops, on the one hand, contended with each other in the most scandalous manner

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Scandalous clergy.

concerning the extent of their respective jurisdictions; while, on the other, they trampled on the rights of the people, violated the privileges of the inferior ministers, and imitated in their conduct and in their manner of living the arrogance, voluptuousness, and luxury of magistrates and princes. This pernicious example was soon followed by the several ecclesiastical orders. The presbyters, in many places, assumed an equality with the bishops in point of rank and authority. Many complaints are also made by the authors of this century about the vanity and effeminacy of the deacons. Those more particularly of the presbyters and deacons who filled the first stations of these orders, carried their pretensions to an extravagant length, and were offended at the notion of being placed on an equality with the colleagues. For this reason they not only assumed the titles of *arch-presbyters* and *arch-deacons*, but also claimed a degree of authority and power much superior to that which was vested in the other members of their respective orders.

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Contests
between
the bishops
of Rome
and Con-
stantinople.

In the fifth century, the bishops of Constantinople having already reduced under their jurisdiction all the Asiatic provinces, began to grasp at still further accessions of power. By the 28th canon of the council held at Chalcedon in 451, it was resolved, that the same rights and honours which had been conferred on the bishop of Rome were due to the bishop of Constantinople, on account of the equal dignity and lustre of the two cities in which these prelates exercised their authority. The same council confirmed also, by a solemn act, the bishop of Constantinople in the spiritual government of those provinces over which he had usurped the jurisdiction. Leo the Great, bishop of Rome, opposed with vehemence the passing of these laws; and his opposition was seconded by that of several other prelates. But their efforts were vain, as the emperors threw in their weight into the balance, and thus supported the decisions of the Grecian bishops. In consequence, then, of the decisions of this famous council, the bishop of Constantinople began to contend obstinately for the supremacy with the Roman pontiff, and to crush the bishops of Antioch and Alexandria. About the same time, Juvenal, bishop of Jerusalem, attempted to withdraw himself and his church from the jurisdiction of the bishop of Cæsarea, and aspired after a place among the first prelates of the Christian world. The high degree of veneration and esteem in which the church of Jerusalem was held among all other Christian societies (on account of its rank among the apostolical churches, and its title to the appellation of *mother-church*, as having succeeded the first Christian assembly formed by the Apostles), was extremely favourable to the ambition of Juvenal, and rendered his project much more practicable than it would otherwise have been. Encouraged by this, and likewise by the protection of Theodosius the younger, this aspiring prelate not only assumed the dignity of patriarch of all Palestine, a rank which rendered him independent of all spiritual authority; but also invaded the rights of the bishop of Antioch, and usurped his jurisdiction over the provinces of Phœnicia and Arabia. Hence arose a warm contest between Juvenal and Maximus bishop of Antioch; which the council of Chalcedon decided, by restoring to the latter the provinces of Phœnicia and Arabia, and confirming the former

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in the spiritual possession of all Palestine and in the high rank which he had assumed in the church.

In 588, John, bishop of Constantinople, surnamed the *Faster*, either by his own authority or that of the emperor Mauritius, summoned a council at Constantinople to inquire into an accusation brought against Gregory, bishop of Antioch; and upon this occasion assumed the title of *œcumenical* or *universal bishop*. This title had been formerly enjoyed by the bishops of Constantinople without any offence; but now, Gregory the Great, at that time bishop of Rome, suspecting that John was aiming at the supremacy over all the churches, opposed his claim with the greatest vigour. For this purpose he applied by letters to the emperor, and others, whom he thought capable of assisting him in his opposition: but all his efforts were without effect; and the bishops of Constantinople were allowed to enjoy the disputed title, though not in the sense which had alarmed the Roman pontiff.

Gregory, however, adhered tenaciously to his purpose, raised new tumults and dissensions among the clergy, and aimed at nothing less than an unlimited supremacy over the Christian church. This ambitious design succeeded in the west; while, in the eastern provinces, his arrogant pretensions were scarcely respected by any but those who were at enmity with the bishop of Constantinople. How much the people were at this time deluded by the Roman pontiffs, appears from the expression of Ennodius, one of the flatterers of Symmachus (who was a prelate of but ambiguous fame), that the Roman pontiff was constituted judge in the place of God, which he filled as the vicegerent of the Most High. On the other hand, it is certain, from a variety of the most authentic records, that both the emperors and the nations in general were far from being disposed to bear with patience the yoke of servitude which the see of Rome was arrogantly imposing on the whole church.

In the beginning of the seventh century, according to the most learned historians, Boniface III. engaged Phocas, emperor of Constantinople, to take from the bishop of that metropolis the title of *œcumenical* or *universal bishop*, and to confer it upon the Roman pontiff; and thus was first introduced the supremacy of the pope. The Roman pontiffs used all methods to maintain and enlarge this authority and pre-eminence which they had acquired from one of the most odious tyrants that ever disgraced the annals of history.

In the eighth century, the power of the bishop of Rome, and of the clergy in general, increased prodigiously. The chief cause of this, besides the superstition of the people, was the method at that time used by the European princes to secure themselves on their thrones. All these princes being then employed either in usurpation or in self-defence, and the whole continent being in the most unsettled and barbarous condition, they endeavoured to attach warmly to their interests those whom they considered as their friends and clients. For this purpose they distributed among them extensive territories, cities, and fortresses, with the various rights and privileges belonging to them; reserving only to themselves the supreme dominion, and the military service of these powerful vassals. For this reason it was by the European princes reckoned a high instance of political prudence to distribute among the

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bishops

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Origin of
the supre-
macy of the
pope.

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bishops and other Christian doctors the same sort of donations which had formerly been given to their generals and clients. By means of the clergy, they hoped to check the seditious and turbulent spirits of their vassals; and to maintain them in their obedience by the influence and authority of their bishops, whose commands were highly respected, and whose spiritual thunderbolts, rendered formidable by ignorance, struck terror into the boldest and most resolute hearts.

This prodigious accession to the opulence and authority of the clergy in the west, began at their head, viz. the Roman pontiff; from whence it spread gradually among the inferior sacerdotal orders. The barbarous nations who had received the gospel, looked upon the bishop of Rome as the successor of their chief druid or high priest: and as this tremendous druid had enjoyed, under the darkness of Paganism, a kind of boundless authority; so these barbarous nations thought proper to confer upon the chief bishop the same authority which had belonged to the chief druid. The pope received these august privileges with great pleasure; and lest, upon any change of affairs, attempts should be made to deprive him of them, he strengthened his title to these extraordinary honours by a variety of passages drawn from ancient history, and, what is still more astonishing, by arguments of a religious nature. This swelled the Roman druid to an enormous size; and gave to the see of Rome that high pre-eminence and despotic authority in civil and political matters, that were unknown to former ages. Hence, among other unhappy circumstances, arose that monstrous and pernicious opinion, that such persons as were excluded from the communion of the church by the pontiff himself, or any of the bishops, forfeited thereby, not only their civil rights and advantages as citizens, but even the common claims and privileges of humanity. This horrid opinion, which was a fatal source of wars, massacres, and rebellions, without number, and which contributed more than any thing else to confirm and augment the papal authority, was borrowed by the clergy from the Pagan superstitions.—Though excommunication, from the time of Constantine the Great, was in every part of the Christian world attended with many disagreeable effects; yet its highest terrors were confined to Europe, where its aspect was truly formidable and hideous. It acquired also, in the eighth century, new accessions of terror; so that from that period the excommunication practised in Europe differed entirely from that which was in use in other parts of Christendom. Excommunicated persons were indeed considered in all places as objects of hatred both to God and man: but they were not, on that account, robbed of the privileges of citizens, nor of the rights of humanity; much less were those kings and princes, whom an insolent bishop had thought proper to exclude from the communion of the church, supposed to forfeit on that account their crowns or their territories. But from this century it was quite otherwise in Europe. Excommunication received that infernal power which dissolved all connections; so that those whom the bishops, or their chief, excluded from church communion, were degraded to a level with the beasts. The origin of this unnatural and horrid power was as follows. On the conversion of the barbarous nations to Christian-

ity, these ignorant profelytes confounded the excommunication in use among Christians with that which had been practised in the times of Paganism, and which was attended with all the dreadful effects above mentioned. The Roman pontiffs, on the other hand, were too artful not to encourage this error; and therefore employed all sorts of means to gain credit to an opinion so well calculated to gratify their ambition, and to aggrandize in general the episcopal order.

The annals of the French nation furnish us with the following instance of the enormous power which was at this time vested in the Roman pontiff. Pepin, who was mayor of the palace to Childeric III. king of France, and who in the exercise of that high office was possessed in reality of the royal power and authority, aspired to the titles and honours of majesty also, and formed a scheme of dethroning his sovereign. For this purpose he assembled the states in 751; and though they were devoted to the interests of this ambitious usurper, they gave it as their opinion that the bishop of Rome was previously to be consulted whether the execution of such a scheme was lawful or not. In consequence of this, ambassadors were sent by Pepin to Zachary, the reigning pontiff, with the following question, "Whether the divine law did not permit a valiant and warlike people to dethrone a pusillanimous and indolent prince who was incapable of discharging any of the functions of royalty; and to substitute in his place one more worthy to rule, and who had already rendered most important services to the state?" The situation of Zachary, who stood much in need of the succours of Pepin against the Greeks and Lombards, rendered his answer such as the usurper desired: and when this favourable decision of the Roman oracle was published in France, the unhappy Childeric was stripped of his royalty without the least opposition; and Pepin, without the smallest resistance, stepped into the throne of his master and his sovereign. This decision was solemnly confirmed by Stephen II. the successor of Zachary; who undertook a journey into France in the year 754, in order to solicit assistance against the Lombards. The pontiff at the same time dissolved the obligation of the oath of fidelity and allegiance which Pepin had sworn to Childeric, and violated by his usurpation in the year 751; and to render his title to the crown as sacred as possible, Stephen anointed and crowned him, with his wife and two sons, for the second time. This complaisance of the pope was rewarded with the exarchate of Ravenna and all its dependencies, as we have already related. See *Civil History*, n° 44. *supra*; and *History of ITALY*.

In the succeeding centuries, the Roman pontiffs continued to increase their power by every kind of artifice and fraud which can dishonour the heart of man; and, by continually taking advantage of the civil dissensions which prevailed throughout Italy, France, and Germany, their influence in civil affairs arose to an enormous height. The increase of their authority in religious matters was not less rapid. The wisest and most impartial among the Roman Catholic writers acknowledge, that from the time of Louis the Meek the ancient rules of ecclesiastical government were gradually changed in Europe by the counsels and instigation of the

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He becomes a temporal prince.

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His power still increases.

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the church of Rome, and new laws substituted in their place. The European princes suffered themselves to be divested of the supreme authority in religious matters, which they had derived from Charlemagne; the power of the bishops was greatly diminished, and even the authority of both provincial and general councils began to decline. The popes, elated with their overgrown prosperity, and become arrogant beyond measure by the daily accessions that were made to their authority, were eagerly bent upon establishing the maxim, That the bishop of Rome was constituted and appointed by Jesus Christ supreme legislator and judge of the church universal; and that therefore the bishops derived all their authority from him. This opinion, which they inculcated with the utmost zeal and ardour, was opposed in vain by such as were acquainted with the ancient ecclesiastical constitutions, and the government of the church in the earlier ages. In order to gain credit to this new ecclesiastical code, and to support the pretensions of the popes to supremacy, it was necessary to produce the authority of ancient deeds, in order to stop the mouths of such as were disposed to set bounds to their usurpations. The bishops of Rome were aware of this; and as those means were looked upon as the most lawful that tended best to the accomplishment of their purposes, they employed some of their most ingenious and zealous partisans in forging conventions, acts of councils, epistles, and such-like records, by which it might appear, that in the first ages of the church the Roman pontiffs were clothed with the same spiritual majesty and supreme authority which they now assumed. There were not, however, wanting among the bishops some men of prudence and sagacity, who saw through these impious frauds, and perceived the chains that were forging both for them and the church. The French bishops distinguished themselves eminently in this respect: but their opposition was soon quashed; and as all Europe was sunk in the grossest ignorance and darkness, none remained who were capable of detecting these odious impostures, or disposed to support the expiring liberty of the church.

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Extreme
insolence
of the
popes.

This may serve as a general specimen of the character and behaviour of the pretended vicegerents of Jesus Christ to the 16th century. In the 11th century, indeed, their power seems to have risen to its utmost height. They now received the pompous titles of *Masters of the World*, and *Popes*, i. e. *universal fathers*. They presided every where in the councils by their legates, assumed the authority of supreme arbiters in all controversies that arose concerning religion or church-discipline, and maintained the pretended rights of the church against the encroachments and usurpations of kings and princes. Their authority, however, was confined within certain limits: for, on the one hand, it was restrained by sovereign princes, that it might not arrogantly aim at civil dominion; and, on the other, it was opposed by the bishops themselves, that it might not arise to a spiritual despotism, and utterly destroy the privileges and liberty of synods and councils. From the time of Leo IX. the popes employed every method which the most artful ambition could suggest to remove those limits, and to render their dominion both despotic and universal. They not only aspired to the character of supreme legislators in the church, to an unlimited jurisdiction over all synods and councils whe-

ther general or provincial, to the sole distribution of all ecclesiastical honours and benefices, as divinely authorised and appointed for that purpose; but they carried their insolent pretensions so far, as to give themselves out for lords of the universe, arbiters of the fate of kingdoms and empires, and supreme rulers over the kings and princes of the earth. Hence we find instances of their giving away kingdoms, and loosing subjects from their allegiance to their sovereigns; among which the history of John king of England is very remarkable. At last they plainly assumed the whole earth as their property, as well where Christianity was preached as where it was not; and therefore, on the discovery of America and the East Indies, the pope, by virtue of this spiritual property, granted to the Portuguese a right to all the countries lying eastward, and to the Spaniards all those lying to the westward, of Cape Non in Africa which they were able to conquer by force of arms; and that nothing might be wanting to complete their character, they pretended to be lords of the future world also, and to have a power of restraining even the divine justice itself, and remitting that punishment which the Deity hath denounced against the workers of iniquity.

All this time the powers of superstition reigned triumphant over those remains of Christianity which had escaped the corruptions of the first four centuries. In the fifth century began the invocation of the happy souls of departed saints. Their assistance was invoked by many fervent prayers, while none stood up to oppose this preposterous kind of worship. The images of those who during their lives had acquired the reputation of uncommon sanctity, were now honoured with a particular worship in several places; and many imagined that this drew into the images the propitious presence of the saints or celestial beings which they were supposed to represent. A singular and irresistible efficacy was attributed to the bones of martyrs, and to the figure of the cross, in defeating all the attempts of Satan, removing all sorts of calamities, and in healing not only the diseases of the body, but also those of the mind. The famous Pagan doctrine concerning the *purgation of departed souls* by means of a certain kind of fire, i. e. purgatory, was also confirmed and explained more fully than it had formerly been; and every one knows of how much consequence this absurd doctrine hath been to the wealth and power of the Romish clergy.

In the sixth century, Gregory the Great advanced an opinion, That all the *words* of the sacred writings were *images* of invisible and spiritual things; for which reason he loaded the churches with a multitude of ceremonies the most insignificant and futile that can be imagined; and hence arose a new and most difficult science, namely, the explication of these ceremonies, and the investigation of the causes and circumstances whence they derived their origin. A new method was contrived of administering the Lord's supper, with a magnificent assemblage of pompous ceremonies. This was called the *canon of the mass*. Baptism, except in cases of necessity, was administered only on the great festivals. An incredible number of temples were erected in honour of the saints. The places set apart for public worship were also very numerous; but now they were considered as the means of purchasing the protec-

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Christianity greatly
corrupted.
Invocations
of saints,
relics, pur-
gatory, &c.
introduced.77
Introduc-
tion of the
mass.

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tion and favour of the saints; and the ignorant and barbarous multitude were persuaded, that these departed spirits defended and guarded against evils and calamities of every kind, the provinces, lands, cities, and villages in which they were honoured with temples. The number of these temples was almost equalled by that of the festivals, which seem to have been invented in order to bring the Christian religion as near the model of Paganism as possible.

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Superstition still
increases.

In the seventh century, religion seemed to be altogether buried under a heap of superstitious ceremonies; the worship of the true God and Saviour of the world was exchanged for the worship of bones, bits of wood (said to be of the cross), and the images of saints. The eternal state of misery threatened in Scripture to the wicked was exchanged for the temporary punishment of purgatory; and the expressions of faith in Christ by an upright and virtuous conduct, for the augmentation of the riches of the clergy by donations to the church, and the observance of a heap of idle ceremonies. New festivals were still added; one in particular was instituted in honour of the *true cross* on which our Saviour suffered: and churches were declared to be sanctuaries to all such as fled to them, whatever their crimes might have been.

Superstition, it would seem, had now attained its highest pitch; nor is it easy to conceive a degree of ignorance and degeneracy beyond what we have already mentioned. If any thing can possibly be imagined more contrary to true religion, it is an opinion which prevailed in the eighth century, namely, That Christians might appease an offended Deity by voluntary acts of mortification, or by gifts and oblations lavished on the church; and that people ought to place their confidence in the works and merits of the saints. The piety in this and some succeeding ages consisted in building and embellishing churches and chapels; in endowing monasteries and basilics; hunting after the relics of saints and martyrs, and treating them with an absurd and excessive veneration; in procuring the intercession of the saints by rich oblations, or superstitious rites; in worshipping images; in pilgrimages to those places which were esteemed holy, particularly to Palestine, &c. The genuine religion of Jesus was now utterly unknown both to clergy and people, if we except a few of its general doctrines contained in the creed. In this century also, the superstitious custom of *solitary masses* had its origin. These were celebrated by the priest alone in behalf of souls detained in purgatory, as well as upon some other occasions. They were prohibited by the laws of the church, but proved a source of immense wealth to the clergy. Under Charlemagne they were condemned by a synod assembled at Mentz, as criminal effects of avarice and sloth. A new superstition, however, still sprung up in the tenth century. It was imagined, from Rev. xx. 1. that Antichrist was to make his appearance on the earth, and that soon after the world itself would be destroyed. An universal panic ensued; vast numbers of people, abandoning all their connections in society, and giving over to the churches and monasteries all their worldly effects, repaired to Palestine, where they imagined that Christ would descend from heaven to judge the world. Others devoted themselves by a solemn and voluntary oath to the service of the churches,

convents, and priesthood, whose slaves they became, in the most rigorous sense of that word, performing daily their heavy tasks; and all this from a notion that the supreme judge would diminish the severity of their sentence, and look upon them with a more favourable and propitious eye, on account of their having made themselves the slaves of his ministers. When the eclipse of the sun or moon happened to be visible, the cities were deserted, and their miserable inhabitants fled for refuge to hollow caverns, and hid themselves among the craggy rocks, and under the bending summits of steep mountains. The opulent attempted to bribe the saints and the Deity himself by rich donations conferred upon the sacerdotal tribe, who were looked upon as the immediate vicegerents of heaven. In many places, temples, palaces, and noble edifices both public and private, were suffered to decay, nay, were deliberately pulled down, from a notion that they were no longer of any use, as the final dissolution of all things was at hand. In a word, no language is sufficient to express the confusion and despair that tormented the minds of miserable mortals upon this occasion. The general delusion was indeed opposed and combated by the discerning few, who endeavoured to dispel these terrors, and to efface the notion from which they arose in the minds of the people. But their attempts were ineffectual; nor could the dreadful apprehensions of the superstitious multitude be removed before the end of the century, and this terror became one of the accidental causes of the *CROISADES*.

That nothing might now be wanting to complete that antichristian system of religion which had overspread all Europe, it was in the 11th century determined that divine worship should be celebrated in the Latin tongue, though now unknown throughout the whole continent. During the whole of this century, also, Christians were employed in the rebuilding and ornamenting their churches, which they had destroyed through the superstitious fear already taken notice of.

In much the same way with what is above related, or worse if possible, matters went on till the time of the reformation. The clergy were immersed in crimes of the deepest dye; and the laity, imagining themselves able to purchase pardon of their sins for money, followed the examples of their pastors without remore. The absurd principle formerly mentioned, namely, that religion consists in acts of austerity, and an unknown mental correspondence with God, produced the most extravagant and ridiculous behaviour in the devotees and reputed saints. They not only lived among the wild beasts, but also after the manner of these savage animals: they ran naked through the lonely deserts with a furious aspect, and all the agitations of madness and frenzy; they prolonged their wretched life by grass and wild herbs, avoided the sight and conversation of men, remained almost motionless in certain places for several years exposed to the rigour and inclemency of the seasons, and towards the conclusion of their lives shut themselves up in narrow and miserable huts; and all this was considered as true piety, the only acceptable method of worshipping the Deity and attaining a share in his favour.—But of all the instances of superstitious frenzy which disgraced the times we now speak of, none was held in higher veneration, or excited more the wonder of the multitude,

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History.

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Extravagant behaviour of the
reputed saints.

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tude, than that of a certain order of men who were called *Stilitæ* by the Greeks, and *Sancti Columnares*, or Pillar Saints, by the Latins. These were persons of a most singular and extravagant turn of mind, who stood motionless on the tops of *pillars* expressly raised for this exercise of their patience, and remained there for several years amidst the admiration and applause of the stupid populace. The inventor of this strange discipline was one *Simeon* a Syrian, who began his follies by changing the agreeable employment of a shepherd for the austerities of a monkish life. He began his devotion on the top of a pillar six cubits high; but as he increased in sanctity, he also increased the height of his pillar, till, towards the conclusion of his life, he had got up on the top of a pillar 40 cubits in height. Many of the inhabitants of Syria and Palestine, seduced by a false ambition and an utter ignorance of true religion, followed the example of this fanatic, though not with the same degree of austerity. This superstitious practice began in the fifth century, and continued in the east for 600 years. The Latins, however, had too much wisdom and prudence to imitate the Syrians and Orientals in this whimsical superstition; and when a certain fanatic, or impostor, named *Wulfilaicus*, erected one of these pillars in the country of Treves, and proposed to live on it after the manner of *Simeon*, the neighbouring bishops ordered it to be pulled down.

The practices of austere worship and discipline in other respects, however, gained ground throughout all parts of Christendom. Monks of various kinds were to be found in every country in prodigious numbers. But though their discipline was at first exceedingly severe, it became gradually relaxed, and the monks gave into all the prevailing vices of the times. Other orders succeeded, who pretended to still greater degrees of sanctity, and to reform the abuses of the preceding ones; but these in their turn became corrupted, and fell into the same vices they had blamed in others. The most violent animosities, disputes, and hatred, also reigned among the different orders of monks; and, indeed, between the clergy of all ranks and degrees, whether we consider them as classed in different bodies, or as individuals of the same body. To enter into a detail of their wranglings and disputes, the methods which each of them took to aggrandise themselves at the expence of their neighbours, and to keep the rest of mankind in subjection, would require many volumes. We shall only observe, therefore, that even the external profession of the austere and absurd piety which took place in the fourth and fifth centuries, continued gradually to decline. Some there were, indeed, who boldly opposed the torrent of superstition and wickedness which threatened to overflow the whole world: but their opposition proved fruitless, and all of these towards the era of the reformation had been either silenced or destroyed: so that, at that time, the pope and clergy reigned over mankind without controul, had made themselves masters of almost all the wealth in every country of Europe, and may truly be said to have been the only *sovereigns*; the rest of the human race, even kings and princes, being only their vassals and slaves.

While the Popish superstition reigned thus violently in the west, the absurd doctrines of Mahomet over-

spread all the east. The rise of this impostor is related under the article ARABIA. His successors conquered in order to establish the religion of their apostle; and thus the very name of Christianity was extinguished in many places where it had formerly flourished. The conquests of the Tartars having intermingled them with the Mahometans, they greedily embraced the superstitions of that religion, which thus almost entirely overspread the whole continents of Asia and Africa; and, by the conquest of Constantinople by the Turks in 1453, was likewise established throughout a considerable part of Europe.

About the beginning of the 16th century, the Roman pontiffs lived in the utmost tranquillity; nor had they, according to the appearance of things at that time, any reason to fear an opposition to their authority in any respect, since the commotions which had been raised by the Waldenses, Albigenes, &c. were now entirely suppressed. We must not, however, conclude, from this apparent tranquillity and security of the pontiffs and their adherents, that their measures were universally applauded. Not only private persons, but also the most powerful princes and sovereign states, exclaimed loudly against the tyranny of the popes, and the unbridled licentiousness of the clergy of all denominations. They demanded, therefore, a reformation of the church in its head and members, and a general council to accomplish that necessary purpose. But these complaints and demands were not carried to such a length as to produce any good effect; since they came from persons who never entertained the least doubt about the supreme authority of the pope in religious matters, and who of consequence, instead of attempting themselves to bring about that reformation which was so ardently desired, remained entirely inactive, or looked for redress to the court of Rome, or to a general council. But while the so much desired reformation seemed to be at such a great distance, it suddenly arose from a quarter whence it was not at all expected. A single person, Martin Luther, a monk of the order of St Augustine, ventured to oppose himself to the whole torrent of papal power and despotism. This bold attempt was first made public on the 30th of September 1517; and, notwithstanding all the efforts of the pope and his adherents, the doctrines of Luther continued daily to gain ground. Others, encouraged by his success, lent their assistance in the work of reformation; which at last produced new churches, founded upon principles quite different from that of Rome, and which still continue. But for a particular account of the transactions of the first reformers, the opposition they met with, and the final settlement of the reformed churches in different nations in Europe, see the articles LUTHER and REFORMATION.

The state of religion in other parts of the world seems as yet to be but little altered. Asia and Africa are sunk in the grossest superstitions either of the Mahomedan or Pagan kinds. The southern continent of America, belonging to the Spaniards, continues immersed in the most absurd superstitions of Popery. The northern continent, being mostly peopled with colonies from Great Britain, professes the reformed religion. At the same time it must be owned, that some kind of reformation hath taken place even in Popery and Mahomedanism themselves. The popes have no longer

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State of religion in the beginning of the 16th century and since that time.

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Rise of Mahometanism.

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longer that authority over states and princes, even those most bigoted to Popery, which they formerly had. Neither are the lives either of the clergy or laity so corrupt as they were before. The increase of learning in all parts of the world has contributed to cause men open their eyes to the light of reason, and this hath been attended with a proportional decrease of superstition. Even in Mahomedan countries, that furious enthusiasm which formerly emboldened the inhabitants to face the greatest dangers, hath now almost vanished; so that the credit of Mahomet himself seems to have sunk much in the estimation of his followers. This is to be understood even of the most ignorant and bigoted multitude; and the sensible part of the Turks are said to incline much towards deism. With regard to those nations which still profess Paganism, the intercourse of Europeans with them is so small, that it is impossible to say any thing concerning them. As none of them are in a state of civilization, however, it may be conjectured, that their religion is of the same unpolished cast with their manners; and that it consists of a heap of barbarous superstitions which have been handed down among them from time immemorial, and which they continue to observe without knowing why or wherefore.

SECT. III. *Of the Composition of History.*

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Cicero's
rules.

De Orat.
Lib. ii. c. 15.

CICERO has given us the whole art of composing history, in a very short and comprehensive manner. We shall first transcribe what he says, and then consider the several parts of it in their proper order. "No one is ignorant (says he), that the first law in writing history is, Not to dare to say any thing that is false; and the next, Not to be afraid to speak the truth: that on the one hand there be no suspicion of affection, nor of prejudice on the other. These foundations are what all are acquainted with. But the superstructure consists partly in things, and partly in the style or language. The former require an order of times, and descriptions of places. And because in great and memorable events, we are desirous to know first their causes, then the actions themselves, and lastly their consequences; the historian should take notice of the springs or motives that occasioned them; and, in mentioning the facts themselves, should not only relate what was done or said, but likewise in what manner; and, in treating upon their consequences, shew if they were the effects of chance, wisdom, or imprudence. Nor should he only recite the actions of great and eminent persons, but likewise describe their characters. The style ought to be fluent, smooth, and even, free from that harshness and poignancy which is usual at the bar." Thus far Cicero. An history written in this manner, and furnished with all these properties, must needs be very entertaining, as well as instructive. And perhaps few have come nearer this plan than Tacitus; though his subject is attended with this unhappy circumstance, or at least unpleasant one, that it affords us examples rather of what we ought to avoid than what to imitate. But it is the business of the historian, as well as of the philosopher, to represent both virtues and vices in their proper colours; the latter doing it by precepts, and the former by examples. Their manner is different; but the end and design of both is, or should

be, the same: And therefore history has not improperly been said by some to be moral philosophy exemplified in the lives and actions of mankind.

We shall reduce these several things mentioned by Cicero to three heads, Matter, Order, and Style; and treat upon each of them separately. But as Truth is the basis and foundation of all history, it will be necessary to consider that in the first place.

ART. I. *Of Truth in History.*

TRUTH is, as it were, the very life and soul of history, by which it is distinguished from fable or romance. An historian therefore ought not only to be a man of probity, but void of all passion or bias. He must have the steadiness of a philosopher, joined with the vivacity of a poet or orator. Without the former, he will be insensibly swayed by some passion to give a false colouring to the actions or characters he describes, as favour or dislike to parties or persons affect his mind. Whereas he ought to be of no party, nor to have either friend or foe while writing; but to preserve himself in a state of the greatest indifferency to all, that he may judge of things as they really are in their own nature, and not as connected with this or that person or party. And with this firm and sedate temper, a lively imagination is requisite; without which his descriptions will be flat and cold, nor will he be able to convey to his readers a just and adequate idea of great and generous actions. Nor is the assistance of a good judgment less necessary than any of the former qualities, to direct him what is proper to be said and what to be omitted, and to treat every thing in a manner suitable to its importance. And since these are the qualifications necessary for an historian, it may perhaps seem the less strange that we have so few good histories.

But historical truth consists of two parts; one is, Not to say any thing we know to be false: Though it is not sufficient to excuse an historian in relating a falsehood that he did not know it was so when he wrote it, unless he first used all the means in his power to inform himself of the truth; for then, undoubtedly, an invincible error is as unpardonable in history as in morality. But the generality of writers in this kind content themselves with taking their accounts from hearsays, or transcribing them from others; without duly weighing the evidence on which they are founded, or giving themselves the trouble of a strict inquiry. Few will use the diligence necessary to inform themselves of the certainty of what they undertake to relate. And as the want of this greatly abates the pleasure of reading such writers, while persons read with diffidence; so nothing more recommends an historian than such industry. Thus we are informed of Thucydides, that when he wrote his history of the Peloponnesian war, he did not satisfy himself with the best accounts he could get from his countrymen the Athenians, fearing they might be partial in their own cause; but spared no expence to inform himself how the same facts were related by their enemies the Lacedaemonians; that, by comparing the relations of both parties, he might better judge of the truth. And Polybius took greater pains than he, in order to write his history of the Roman affairs; for he travelled into Africa, Spain, Gaul, and other parts of the world, that

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that by viewing the several scenes of action, and informing himself from the inhabitants, he might come at a greater certainty of the facts, and represent them in a juster light. But as an historian ought not to assert what he knows to be false; so he should likewise be cautious in relating things which are doubtful, and acquaint his readers with the evidence he goes upon in such facts, from whence they may be able to judge how far it is proper to credit them. So Herodotus tells us what things he saw himself in his travels, and what he heard from the information of the Egyptian priests and others with whom he conversed. And Curtius, in the life of Alexander, speaking of the affairs of India, ingenuously confesses, that he wrote more than he fully believed. "For (says he) I neither dare to affirm positively what I doubt of, nor can I think it proper to omit what I have been told." By such a conduct the author secures his credit, whether the things prove really true or false; and gives room for further inquiry, without imposing on his readers.

The other branch of historical truth is, Not to omit any thing that is true, and necessary to set the matter treated of in a clear and full light. In the actions of past ages or distant countries, wherein the writer has no personal concern, he can have no great inducement to break in upon this rule. But where interest or party is engaged, it requires no small candour, as well as firmness of mind, constantly to adhere to it. Affection to some, aversion too thers, fear of disobliging friends or those in power, will often interpose and try his integrity. Besides, an omission is less obvious to censure, than a false assertion: for the one may be easily ascribed to ignorance or forgetfulness; whereas the other will, if discovered, be commonly looked upon as design. He therefore, who in such circumstances, from a generous love to truth, is superior to all motives to betray or stifle it, justly deserves the character of a brave as well as honest man. What Polybius says upon this head is very well worth remarking: "A good man ought to love his friends and his country, and to have a like disposition with them, both towards their friends and enemies. But when he takes upon him the character of an historian, they must all be forgot. He must often speak well of his enemies, and commend them when their actions deserve it; and sometimes blame, and even upbraid his greatest friends, when their conduct makes it necessary. Nor must he forbear sometimes to reprove, and at other times to commend, the same persons; since all are liable to mistake in their management, and there are scarce any persons who are always in the wrong. Therefore, in history, all personal considerations should be laid aside, and regard had only to their actions."

What a different view of mankind and their actions should we have were these rules observed by all historians? Integrity is undoubtedly the principal qualification of an historian; when we can depend upon this, other imperfections are more easily passed over. Suetonius is said to have written the lives of the first twelve Roman emperors with the same freedom wherewith they themselves lived. What better character can be given of a writer? The same ingenuous temper appears in the two Grecian historians above mentioned, Thucydides and Polybius: The former of whom, though banished by his countrymen the Athe-

nians, yet expresses no marks of resentment in his history, either against them in general, or even against the chief authors of it, when he has occasion to mention them; and the latter does not forbear censuring what he thought blameable in his nearest relations and friends. But it is often no easy matter to know whether an historian speaks truth or not, and keeps up to the several characters here mentioned; tho' it seems reasonable, upon the common principles of justice due to all mankind, to credit him where no marks of partiality or prejudice appear in his writings. Sometimes, indeed, a judgment may in a good measure be formed of the veracity of an author from his manner of expressing himself. A certain candour and frankness, that is always uniform and consistent with itself, runs through their writings who have nothing in view but truth, which may be justly esteemed as a very good evidence of their sincerity. Whereas those who have partial designs to answer are commonly more close and covert; and if at other times they assume an air of openness and freedom, yet this is not constant and even, but soon followed again with the appearance of some bias and reserve: for it is very difficult to act a part long together without lying open to a discovery. And therefore, though craft and design is exceeding various, and, Proteus-like, assumes very different shapes, there are certain characters by which it may often be perceived and detected. Thus, where things are uncertain by reason of their being reported various ways, it is partiality in an historian to give into the most unfavourable account, where others are as well known and equally credible. Again, it is a proof of the same bad temper, when the facts themselves are certain and evident, but the design and motives of those concerned in them are unknown and obscure, to assign some ill principle, such as avarice, ambition, malice, interest, or any other vicious habit, as the cause of them. This conduct is not only unjust to the persons whose actions they relate; but hurtful to mankind in general, by endeavouring to destroy the principal motive to virtue, which springs from example. Others, who affect to be more covert, content themselves with suspicious and sly insinuations; and then endeavour to come off, by intimating their unwillingness to believe them, tho' they would have their readers do so. And to mention no more, there are others, who, when they have loaded persons with unjust calumnies and reflections, will allow them some slight commendations, to make what they have said before look more credible, and themselves less partial. But the honest and faithful historian contemns all such low and mean arts; he considers things as they are in themselves, and relates them as he finds them, without prejudice or affection.

ART. II. The SUBJECT or ARGUMENT of History.

THE *subject* in general is facts, together with such things as are either connected with them, or may at least be requisite to set them in a just and proper light. But although the principal design of history be to acquaint us with facts, yet all facts do not merit the regard of an historian; but such only as may be thought of use and service for the conduct of human life. Nor is it allowable for him, like the poet, to form the plan and scheme of his work as he pleases. His business

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is to report things as he finds them, without any colouring or disguise to make them more pleasing and palatable to his reader, which would be to convert his history into a novel. Indeed, some histories afford more pleasure and entertainment than others, from the nature of the things of which they consist; and it may be esteemed the happiness of an historian to meet with such a subject, but it is not his fault if it be otherwise. Thus Herodotus begins his history with showing, that the barbarians gave the first occasion to the wars between them and the Greeks, and ends it with an account of the punishment which, after some ages, they suffered from the Greeks on that account. Such a relation must not only be very agreeable to his countrymen the Grecians, for whose sakes it was written; but likewise very instructive, by informing them of the justice of Providence in punishing public injuries in this world, wherein societies, as such, are only capable of punishment. And therefore those examples might be of use to caution them against the like practices. On the contrary, Thucydides begins his history with the unhappy state of his countrymen the Athenians; and in the course of it plainly intimates, that they were the cause of the calamitous war between them and the Lacedemonians. Whereas, had he been more inclined to please and gratify his countrymen than to write the truth, he might have set things in such a light as to have made their enemies appear the aggressors. But he scorned to court applause at the expence of truth and justice, and has set a noble example of integrity to all future historians. But as all actions do not merit a place in history, it requires no small judgment in an historian to select such only as are proper. Cicero observes very justly, that history "is conversant in great and memorable actions." For this reason, an historian should always keep posterity in view; and relate nothing which may not, upon some account or other, be worth the notice of after-ages. To descend to trivial and minute matters, such as frequently occur in the common affairs of life, is below the dignity of history. Such writers ought rather to be deemed journalists than historians, who have no view or expectation that their works should survive them. But the skilful historian is fired with a more noble ambition. His design is to acquaint succeeding ages with what remarkable occurrences happened in the world before them; to do justice to the memory of great and virtuous men; and at the same time to perpetuate his own. Pliny the younger has some fine reflections upon this head, in a letter to a friend. "You advise me (says he) to write an history; and not you only, for many others have done the same, and I am myself inclined to it. Not that I believe myself qualified for it, which would be rash to think till I have tried it; but because I esteem it a generous action not to suffer those to be forgotten, whose memory ought to be eternized; and to perpetuate the names of others, together with one's own. For there is nothing I am so desirous or ambitious of, as to be remembered hereafter; which is a thing worthy of a man, especially of one who, conscious of no guilt, has nothing to fear from posterity. Therefore I am thinking day and night by what means, as Virgil says,

My name
To raise aloft:
N^o 155.

That would suffice me; for it is above my wish to add with him,

— and wing my flight to fame.

But oh!

However, this is enough, and what history alone seems to promise." This was Pliny's opinion with regard to the use and advantage of history; the subjects of which are generally matters of weight and importance. And therefore, when a prudent historian thinks it convenient to take notice of things in themselves less considerable, he either does it with brevity, or for some apparent reason, or accounts for it by some just apology. So Dion Cassius, when he has mentioned some things of less moment in the life of Commodus (as indeed that emperor's life was chiefly filled up with cruelty and folly), makes this excuse for himself: "I would not have it thought that I descend below the gravity of history in writing these things: For, as they were the actions of an emperor, and I was present and saw them all, and both heard and conversed with him, I did not think it proper to omit them." He seems to think those actions, when performed by an emperor, might be worth recording, which, if done by a person of inferior rank, would scarce have deserved notice. Nor does he appear to have judged amiss, if we consider what an influence the conduct and behaviour of princes, even in the common circumstances of life, have upon all beneath them; which may sometimes render them not unworthy the regard of an historian, as examples either for imitation or caution.

But although facts in general are the proper subject of history, yet they may be differently considered with regard to the extent of them, as they relate either to particular persons or communities of men. And from this consideration history has been distinguished into three sorts, viz. *biography*, *particular* and *general history*. The lives of single persons is called *biography*. By *particular history* is meant that of particular states, whether for a shorter or longer space of time. And *general history* contains an account of several states existing together in the same period of time.

1. The subjects of *biography* are the lives either of public or private persons; for many useful observations in the conduct of human life may be made from just accounts of those who have been eminent and beneficial to the world in either station. Nay, the lives of vicious persons are not without their use, as warnings to others, by observing the fatal consequences which sooner or later generally follow such practices. But, for those who exposed their lives, or otherwise employed their time and labour, for the service of their fellow-creatures, it seems but a just debt that their memories should be perpetuated after them, and posterity acquainted with their benefactors. The expectation of this was no small incentive to virtue in the Pagan world. And perhaps every one, upon due reflection, will be convinced how natural this passion is to mankind in general. And it was for this reason, probably, that Virgil places not only his heroes, but also the inventors of useful arts and sciences, and other persons of distinguished merit, in the Elysian Fields, where he thus describes them:

Here patriots live, who, for their country's good,
In fighting fields were prodigal of blood:

Priests

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Lib. v. ep. 8.

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kinds of
history.

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Priests of unblemish'd lives here make abode,
And poets worthy their inspiring god;
And searching wits of more mechanic parts,
Who grac'd their age with new invented arts;
Those who to worth their bounty did extend,
And those who knew that bounty to commend:
The heads of these with holy fillets bound,
And all their temples were with garland's crown'd.
ÆNEID, l. vi. v. 66.

In the lives of public persons, their public characters are principally, but not solely, to be regarded. The world is inquisitive to know the conduct of princes and other great men, as well in private as public. And both, as has been said, may be of service, considering the influence of their examples. But to be over-inquisitive in searching into the weaknesses and infirmities of the greatest or best of men, is, to say no more of it, but a needless curiosity. In the writers of this kind, Plutarch is justly allowed to excel.

But it has been a matter of dispute among the learned, whether any one ought to write his own history. It may be pleaded in favour of this, that no one can be so much master of the subject as the person himself: and besides, there are many instances, both ancient and modern, to justify such a conduct. But on the other hand it must be owned, that there are many inconveniencies which attend it; some of which are mentioned by Cicero. "If (says he) there is any thing commendable, persons are obliged to speak of themselves with greater modesty, and to omit what is blameable in others. Besides, what is said is not so soon credited, and has less authority; and after all, many will not stick to censure it." And Pliny says very well to the same purpose, "Those who proclaim their own virtues, are thought not so much to proclaim them because they did them, as to have done them that they might proclaim them. So that which would have appeared great if told by another, is lost when related by the party himself. For when men cannot deny the fact, they reflect upon the vanity of its author. Wherefore, if you do things not worth mentioning, the actions themselves are blamed; and if the things you do are commendable, you are blamed for mentioning them." These reflections will be generally allowed to be very just; and yet considering how natural it is for men to love themselves, and to be inclined in their own favour, it seems to be a very difficult task for any one to write an impartial history of his own actions. There is scarce any treatise of this kind that is more celebrated than Cæsar's Commentaries. And yet Suetonius tells us, that "Asinius Pollio (who lived at that time) thought they were neither written with due care nor integrity: that Cæsar was often too credulous in his accounts of what was done by other persons; and misrepresented his own actions, either designedly, or through forgetfulness: and therefore he supposes he would have revised and corrected them." However, at some times it may doubtless be justifiable for a person to be his own historian. Plutarch mentions two cases wherein it is allowable for a man to commend himself, and be the publisher of his own merits. These are, when the doing of it may be of considerable advantage either to himself or others. It is indeed less invidious for other persons to undertake the province. And

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especially for a person to talk or write of his own virtues, at a time when vice and a general corruption of manners prevails, let what he says be ever so true, it will be apt at least to be taken as a reflection upon others. "Anciently (says Tacitus), many wrote their own lives, rather as a testimony of their conduct, than from pride." Upon which he makes this judicious remark: "That the more virtue abounds, the sooner the reports of it are credited." But the ancient writers had a way of taking off the reader's attention from themselves in recording their own actions, and so rendering what they said less invidious: and that was, by speaking of themselves in the third person, and not in the first. Thus Cæsar never says, "I did," or, "I said, this or that;" but always, "Cæsar did, or said, so and so." Why the moderns have not more chosen to follow them in this, we know not, since it seems less exceptionable.

2. In a continued history of *particular* states, some account may be given of their original, and founders; the nature of their soil, and situation; what advantages they have for their support or improvement, either within themselves, by foreign traffic, or conquests; with the form of their government. Then notice should be taken of the methods by which they increased in wealth or power, till they gradually advanced to their highest pitch of grandeur; whether by their virtue, the goodness of their constitution, trade, industry, wars, or whatever cause. After this the reasons of their declensions should be shown; what were the vices that principally occasioned it (for that is generally the case); whether avarice, ambition, luxury, discord, cruelty, or several of these in conjunction. And lastly, where that has been their unhappy fate, how they received their final ruin and subversion. Most of these things Livy had in view when he wrote his history of the Roman state, as he acquaints his readers in the preface. "The accounts (says he) of what happened either before or while the city was building, consisting rather of poetical fables than any certain records of facts, I shall neither assert nor confute them. Let antiquity be allowed to make the origin of their cities more venerable, by uniting things human and divine. But if any nation may be suffered to fetch their origin from the gods, such is the military glory of the Romans, that when they represent Mars as the father of their founder, other nations may as easily acquiesce in this as they do in their government. But I lay no great stress upon these things, and others of the like nature, whatever may be thought of them. What I am desirous every one should carefully attend to, are our lives and manners: by what men, and what arts, civil and military, the empire was both acquired and enlarged; then let him observe, how our manners gradually declined with our discipline; afterwards grew worse and worse; and at length so far degenerated, that at present we can neither bear with our vices nor suffer them to be remedied. This is the chief benefit and advantage to be reaped from history, to fetch instruction from eminent examples of both kinds; in order to imitate the one, which will be of use both to yourself and your country, and avoid the other, which are equally base in their rise and event." Thus far Livy. And

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Ad Fam.
lib. v.
ep. 12.

Lib. viii.
ep. 1.

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how well he has executed this design must be acknowledged by all who will be at the pains to peruse his work.

3. But as a particular history consists in a number of facts relating to the same state, suitably connected and laid together in a proper series; so a *general* history is made up of several particular histories, whose separate transactions within the same period of time, or part of it, should be so distinctly related as to cause no confusion. Such was the history of Diodorus Siculus, which contained an account of most of the eminent states and kingdoms in the world, though far the greatest part of it is now unhappily lost. Of the same nature is the history of Herodotus, though not so extensive; to whom we are especially indebted for the Persian affairs. And to this kind may likewise be referred Justin's history, though it be only the epitome of a larger work written by another hand. The rules proper for conducting such histories are much the same as those above mentioned concerning particular histories; excepting what relates to the *order*, of which we shall have occasion to speak hereafter.

But the histories both of particular states and those which are more general frequently contain only the affairs of some short period of time. Thus the history of the Peloponnesian war, written by Thucydides, comprises only what was done in the first twenty years of that war, which lasted seven years longer than his account reaches; though indeed the reason of that might be, because Thucydides died before the war was finished, otherwise he would very probably have continued his history to the conclusion of it. But the history of the war between the Romans and king Jugurtha in Africa, given us by Sallust, as also Cæsar's histories of the Gallic and civil wars, are all confined within a much less number of years than that of Thucydides. Nay, sometimes one single transaction is thought sufficient to furnish out an history. Such was the conspiracy of Catiline to subvert the Roman state, written likewise by Sallust. As to more general histories, Xenophon's history of Greece may be esteemed as such; which in order of time succeeds that of Thucydides, and contains the affairs of forty-eight years. And Polybius called his a *general history*; which, though it principally contained the Roman affairs, yet took in the most remarkable transactions of several other states, for the space of fifty-three years: though it has met with the same hard fate as that of Diodorus Siculus, so that only the first five books out of forty, of which it consisted at first, now remain entire. And to mention no more, the celebrated history of Thuanus is another instance of this sort, in which the principal transactions of Europe for about 60 years, chiefly in the 16th century, are described with that judgment and fidelity, and in a manner so accurate and beautiful, that he has been thought scarcely inferior to any of the ancient historians. Now, in such histories as these, to go farther back than is necessary to set the subject in a just light, seems as improper as it is unnecessary.

The general subject or argument of history, in its several branches, may be reduced to these four heads; *narration, reflections, speeches, and digressions.*

1. By *narration* is meant a description of facts or

actions, with such things as are necessarily connected with them; namely, persons, time, place, design, and event.

As to *actions* themselves, it is the business of the historian to acquaint his readers with the manner in which they were performed; what measures were concerted on all sides, and how they were conducted, whether with vigilance, courage, prudence, and caution, or the contrary, according to the nature of the action; as likewise, if any unforeseen accidents fell out, by which the designed measures were either promoted or broken. All actions may be referred to two sorts, military and civil. And as war arises from injustice and injuries received on one side or the other, it is fit the reader should be informed who were the aggressors. For though war is never to be desired, yet it is sometimes necessary. In the description of battles, regard should be had equally to both parties; the number of forces, conduct of the generals, in what manner they engaged, what turns and chances happened in the engagement, either from accidents, courage, or stratagem, and how it issued. The like circumstances should all be observed in sieges and other actions. But the most agreeable scene of history arises from a state of peace. Here the writer acquaints us with the constitution of states, the nature of their laws, the manners and customs of the inhabitants, the advantages of concord and unanimity, with the disadvantages of contention and discord; the invention of arts and sciences, in what manner they were improved and cultivated, and by whom; with many other things, both pleasant and profitable in the conduct of life.

As to *persons*, the characters of all those should be described who act any considerable part in an history. This excites the curiosity of the reader, and makes him more attentive to what is said of them; as every one is more inquisitive to hear what relates to others in proportion to his knowledge of them. And it will likewise be of use to observe, how their actions agree with their characters, and what were the effects of their different qualifications and abilities.

The circumstances of *time* and *place* are carefully to be regarded by an historian, without which his accounts of facts will be frequently very lame and imperfect. And therefore chronology and geography seem not improperly to have been called *the two eyes of history*. Besides, they very much assist the memory: for it is much easier to remember any thing said to be done at such a time, and in such a place, than if only related in general; nay, the remembrance of these often recalls those things to mind which otherwise had been obliterated. By time is meant not only the year of any particular era or period; but likewise the season, as summer or winter; and the age of particular persons. For it is oftentimes from hence that we are principally enabled to make a just estimate of facts. Thus Cicero commends Pompey for undertaking and finishing the Piratic war at a season of the year when other generals would not have thought it safe to venture out at sea. This double danger, as well from the weather as the enemy, considering the necessity of the case, heightens the glory of the action; since to have done the same thing in summer would not have been an equal proof of the courage

Pro Leg.
Man. c. 22

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and intrepidity of the general. And there is nothing more surprising in the conquests of Alexander than that he should subdue so large a part of the world by the time he was little more than 30 years old; an age at which few other generals have been much distinguished. Had we not known this, a considerable part of his character had been lost.

The like advantages arise from the other circumstances of place. And therefore in marches, battles, and other military actions, the historian should take notice of the nature of the country, the passes, rivers, distances of places, situation of the armies, and strength of the towns either by nature or art; from which the reader may the better form a judgment of the difficulties and greatness of any enterprise. Cæsar is generally very particular in these things, and seems to have thought it highly requisite in order to give his readers a just idea of his actions. The descriptions of countries, cities, and rivers, are likewise both useful and pleasant; and help us to judge of the probability of what is related concerning the temper and genius of the inhabitants, their arts, traffic, wealth, power, or whatever else is remarkable among them.

But an accurate historian goes yet further, and considers the *causes* of actions, and what were the *designs* and views of those persons who were principally concerned in them. Some, as Polybius has well observed, are apt to confound the beginnings of actions with their springs and causes, which ought to be carefully separated. For the causes are often very remote, and to be looked for at a considerable distance from the actions themselves. Thus, as he tells us, some have represented Hannibal's besieging Saguntum in Spain, and passing the Ebro, contrary to a former agreement between the Romans and Carthaginians, as causes of the second Punic war. But these were only the beginnings of it. The true causes were the jealousies and fears of the Carthaginians from the growing power of the Romans; and Hannibal's inveterate hatred to them, with which he had been impressed from his infancy. For his father, whom he succeeded in the command of the Carthaginian army, had obliged him, when but nine years old, to take a most solemn oath upon an altar never to be reconciled to the Romans: and therefore he was no sooner at the head of the army, than he took the first opportunity to break with them. Again, the true springs and causes of actions are to be distinguished from such as are only feigned and pretended. For generally the worse designs men have in view, the more solicitous they are to cover them with specious pretences. It is the historian's business, therefore, to lay open and expose to view these arts of politicians. So, as the same judicious historian remarks, we are not to imagine Alexander's carrying over his army into Asia to have been the cause of the war between him and the Persians. That had its being long before. The Grecians had formerly two armies in Asia, one under Xenophon and the other commanded by Agesilaus. Now the Asiatics did not venture to oppose or molest either of these armies in their march. This made king Philip, Alexander's father, who was an ambitious prince, and aspired after universal monarchy, think it might be a practicable thing to make a conquest of Asia. Accordingly, he kept it in his view, and made preparations for it; but did not live to execute it. That was

left for his son. But as king Philip could not have done this without first bringing the other states of Greece into it, his pretence to them was only to avenge the injuries they had all suffered from the Persians; though the real design was an universal government, both over them and the Persians, as appeared afterwards by the event. But in order to our being well assured of a person's real designs, and to make the accounts of them more credible, it is proper we should be acquainted with his disposition, manners, way of life, virtues, or vices; that by comparing his actions with these, we may see how far they agree and suit each other. For this reason Sallust is so particular in his description of Catiline, and Livy of Hannibal; by which it appears credible, that the one was capable of entering into such a conspiracy against his country, and the other of performing such great things as are related concerning him. But if the causes of actions lie in the dark, and unknown, a prudent historian will not trouble himself or his readers with vain and trifling conjectures unless something very probable offers itself.

Lastly, an historian should relate the *issue* and *event* of the actions he describes. This is undoubtedly the most useful part of history; since the greatest advantage arising from it is to teach us experience from what has happened in the world before us. When we learn from the examples of others the happy effects of wisdom, prudence, integrity, and other virtues, it naturally excites us to an imitation of them, and to pursue the same measures in our own conduct. And, on the contrary, by perceiving the unhappy consequences which have followed from violence, deceit, rashness, or the like vices, we are deterred from such practices. But since the wisest and most prudent measures do not always meet with the desired success, and many cross accidents may happen to frustrate the best concerted designs; when we meet with instances of this nature, it prepares us for the like events, and keeps us from too great a confidence in our own schemes. However, as this is not commonly the case, but in the ordinary course of human affairs like causes usually produce like effects; the numerous examples of the happy consequences of virtue and wisdom recorded in history are sufficient to determine us in the choice of our measures, and to encourage us to hope for an answerable success, though we cannot be certain we shall in no instance meet with a disappointment. And therefore Polybius very justly observes, that "he who takes from history the causes, manner, and end of actions, and omits to take notice whether the event was answerable to the means made use of, leaves nothing in it but a bare amusement, without any benefit or instruction." These, then, are the several things necessary to be attended to in historical narrations; but the proper disposition of them must be left to the skill and prudence of the writer.

II. *Reflections* made by the writers. Some have condemned these, as having a tendency to bias the reader; who should be left to draw such conclusions from the accounts of facts as he sees proper. But since all readers are not capable of doing this for themselves, what disadvantage is it for the author to suggest to them such observations as may assist them to make the best use of what they read? And if the philosopher is

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allowed to draw such inferences from his precepts as he thinks just and proper, why has not the historian an equal right to make reflections upon the facts he relates? The reader is equally at liberty to judge for himself in both cases, without danger of being prejudiced. And therefore we find, that the best historians have allowed themselves this liberty. It would be easy to prove this by a large number of instances, but one or two here may suffice. When Salust has given a very distinct account of the designs of Catiline, and of the whole scheme of the conspiracy, he concludes it with this reflection: "All that time the empire of the Romans seems to me to have been in a very unhappy state. For when they had extended their conquests through the whole world from east to west, and enjoyed both peace and plenty, which mankind esteem their greatest happiness; some persons were obstinately bent upon their own ruin, and that of their country. For notwithstanding two decrees were published by the senate, not one out of so great a multitude was prevailed with, by the rewards that were offered, either to discover the conspiracy or to leave the army of Catiline. So desperate a disease, and as it were infection, had seized the minds of most people!" And it is a very handsome observation that Livy makes upon the ill-conduct of Hannibal in quartering his army in Capua after the battle of Cannæ; by which means they lost their martial vigour through luxury and ease. "Those (says he) who are skilled in military affairs reckon this a greater fault in the general, than his not marching his army immediately to Rome after his victory at Cannæ; for such a delay might have seemed only to defer the victory, but this ill step deprived him of the power to gain it." The modesty of the historian in this passage is worth remarking, in that he does not represent this as his own private opinion, and by that means undertake to censure the conduct of so great a general as Hannibal was, but as the sense of those who were skilled in such affairs. However, an historian should be brief in such remarks; and consider, that although he does not exceed his province by applauding virtue, expressing a just indignation against vice, and interposing his judgment upon the nature and consequences of the facts he relates; yet there ought to be a difference between his reflections and the encomiums or declamations of an orator.

Bell. Catil.
c. 37.

Lib. xxiii.
c. 18.

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Of speeches.

III. *Speeches* inserted by historians. These are of two sorts, oblique and direct. The former are such as the historian recites in his own person, and not in that of the speaker. Of this kind is that of Hannibal in Justin; by which he endeavours to persuade king Antiochus to carry the seat of the war against the Romans into Italy. It runs thus: "Having desired liberty to speak (he said), none of the present counsels and designs pleased him; nor did he approve of Greece for the seat of the war, which might be managed in Italy to greater advantage: because it was impossible to conquer the Romans but by their own arms, or to subdue Italy but by its own forces; since both the nature of those men, and of that war, was different from all others. In other wars, it was of great importance to gain an advantage of place or time, to ravage the countries and plunder the towns; but though you gain some advantage over the Romans, or defeat

them, you must still fight with them when beaten. Wherefore, should any one engage with them in Italy, it was possible for him to conquer them by their own power, strength, and arms, as he himself had done; but should he attempt it out of Italy, the source of their power, he would be as much deceived, as if he endeavoured to alter the course of a river, not at the fountain-head, but where its streams were largest and deepest. This was his judgment in private, and what he had offered as his advice, and now repeated in the presence of his friends; that all might know in what manner a war ought to be carried on against the Romans, who were invincible abroad, but might be conquered at home. For they might sooner be driven out of their city than their empire, and from Italy than their province; having been taken by the Gauls, and almost subdued by himself. That he was never defeated till he withdrew out of their country; but upon his return to Carthage, the fortune of the war was changed with the place." He seems to intimate by this speech, that the Romans were like some fierce and impetuous animals, which are no otherwise to be subdued than by wounding them in some vital part. In speeches related after this manner, we are not necessarily to suppose the historian gives us the very words in which they were at first delivered, but only the sense. But in direct speeches, the person himself is introduced as addressing his audience; and therefore the words as well as the sense are to be suited to his character. Such is the speech of Eumenes, one of Alexander's captains and successors, made to his soldiers when they had traiterously bound him in chains, in order to deliver him up to his enemy Antigonus, as we have it in the same writer. "You see, soldiers (says he), the habits and ornaments of your general, which have not been put upon me by mine enemies; that would afford me some comfort: it is by you, that of a conqueror I am become conquered, and of a general a captive; though you have sworn to be faithful to me four times within the space of a year. But I omit that, since reflections do not become persons in calamity. One thing I intreat, that, if Antigonus must have my life, you would let me die among you. For it no way concerns him how or where I suffer, and I shall escape an ignominious death. If you grant me this, I free you from your oath, with which you have been so often engaged to me. Or, if shame restrains you from offering violence to me at my request, give me a sword, and suffer your general to do that for you without the obligation of an oath which you have sworn to do for your general."

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Lib. xxxi.
c. 5.

Lib. xiv.
c. 4.

But this likewise is a matter in which critics have been divided in their sentiments; whether any, or what kind, of speeches ought to be allowed in history. Some have thought all speeches should be excluded: and the reason given for that opinion is this; that it breaks the thread of the discourse, and interrupts the reader, when he is desirous to come to the end of an action, and know how it issued. This is true, indeed, when speeches are either very long or too frequent; but otherwise they are not only entertaining, but likewise instructive. For it is of service to know the springs and reasons of actions; and these are frequently opened and explained in the speeches of those by whom they were performed. Others therefore have not been against

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Lib. xxviii.
c. 3.

Lib. ii.
c. 40.
Ant. Rom.
lib. vii.
c. 46.
*In Corio-
lano.*

See Voss.
Ars Hist.
s. 20.

against all speeches in general, but only direct ones. And this was the opinion of Trogus Pompeius, as Justin informs us; though he did not think fit to follow him in that opinion, when he abridged him, as we have seen already by the speech of king Eumenes. The reason offered against direct speeches is, because they are not true; and truth is the foundation of all history, from which it never ought to depart. Such speeches, therefore, are said to weaken the credit of the writer; since he who will tell us that another person spoke such things which he does not know that he ever did speak, and in such language as he could not use, may take the same liberty in representing his actions. Thus, for example, when Livy gives us the speeches of Romulus, the Sabine women, Brutus, and others, in the first ages of the Roman state, both the things themselves are imaginary, and the language wholly disagreeable to the times in which those persons lived. Accordingly we find, that when several historians relate some particular speech of the same person, they widely differ both in the subject-matter and expressions. So the speech of Veturia, by which she dissuaded her son Coriolanus from besieging Rome when he came against it with an army of Volscians to avenge the injuries he had received, is very differently related by Livy, Dionysius of Halicarnassus, and Plutarch. Such fictitious speeches therefore are judged more fit for poets, who are allowed a greater liberty to indulge their fancy than historians. And if any direct speeches are to be inserted, they should be such only as were really spoken by the persons to whom they are ascribed, where any such have been preserved. These have been the sentiments of some critics both ancient and modern. However, there is scarce an ancient historian now extant, either Greek or Latin, who has not some speeches, more or less, in his works; and those not only oblique, but also direct. They seem to have thought it a necessary ornament to their writings: and even where the true speeches might be come at, have chosen rather to give them in their own words; in order, probably, to preserve an equality in the style. Since therefore the best and most faithful historians have generally taken this liberty, we are to distinguish between their accounts of facts and their speeches. In the former, where nothing appears to the contrary, we are to suppose they adhere to truth, according to the best information they could get; but in the latter, that their view is only to acquaint us with the causes and springs of actions, which they chose to do in the form of speeches, as a method most ornamental to the work, and entertaining to the reader: Though the best historians are cautious of inserting speeches, but where they are very proper, and upon some solemn and weighty occasions. Thucydides is said to have been the first who brought complete and finished speeches into history, those of Herodotus being but short and imperfect. And though Dionysius of Halicarnassus, in his censure upon Thucydides, seems then to have disliked that part of his conduct; yet he afterwards thought fit to imitate it in his *Antiquities of Rome*, where we find many not only oblique, but also direct speeches.

What has been said of speeches, may likewise be understood of letters, which we sometimes meet with in histories; as that of Alexander to Darius in Q.

Curtius, those of Tiberius and Drusus in Tacitus, and many others. Some letters are wholly fictitious; and in others perhaps the historian represents the substance of what was really said, but gives it his own dress. Thus we find that short letter of Lentulus to Cataline at the time of his conspiracy differently related by Cicero and Sallust. The reason of which seems to be this: That as Cicero recited it publicly to the people of Rome in his third oration against Catiline, it is reasonable to imagine he did it in the very words of the letter, which he had by him; whereas Sallust, as an historian, might think it sufficient to give the sense of it in his own words.

IV. *Digressions.* These, if rightly managed, afford the reader both delight and profit. Like speeches, they should neither be too long nor frequent; lest they interrupt the course of the history, and divert the reader from the main design of the work. But now and then to introduce a beautiful description, or some remarkable incident, which may give light to the subject, is so far from an interruption, that it is rather a relief to the reader, and excites him to go on with greater pleasure and attention. See further on this head, ORATORY, n^o 37.

ART. III. Of ORDER.

SINCE most histories consist of an introduction and the body of the work, in each of which some order is requisite, we shall speak to them separately.

I. The design of the introduction is the same here as in orations. For the historian proposes three things by his introduction, which may be called its parts; to give his reader some general view of the subject, to engage his attention, and to possess him with a candid opinion of himself and his performance. Some have thought this last unnecessary for an historian. But if we consider how differently mankind are apt to judge of the same persons and actions, it seems as requisite for an historian to be well esteemed as an orator. And therefore we find some of the best historians have not omitted this part. Livy's introduction has been very much applauded by the learned, as a master-piece in its kind. It begins with an account of his design. "Whether (says he) it may answer any valuable end for me to write the history of the Roman affairs from the beginning of the city, I neither am certain, nor if I was should I venture to declare it." Soon after he endeavours to prepare the reader's attention, by representing the grandeur and usefulness of the subject in the following words: "Either I am prejudiced in favour of my subject, or there never was any state greater, more virtuous, and fruitful of good examples, or in which avarice and luxury had a later admittance, or poverty and thriftiness were either more highly or longer esteemed, they always coveting less the less they enjoyed." And then he presently proceeds to ingratiate himself with his readers, and gain their favourable opinion: "Although my name is obscure in so great a number of writers, yet it is a comfort that they cloud it by their fame and character. But I shall gain this advantage by my labour, that I shall be diverted for a time from the prospect of those evils which the age has seen for so many years; while my mind is wholly intent upon former times, free from all that care which gives the writer an uneasiness, though it cannot

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Lib. iv.
c. 1.
Ann. Lib. i.
73. iii 56,
59.

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bias him against the truth." In this passage we see he endeavours to gain the good esteem of his readers from two very powerful motives, modesty and a strict regard to truth. It may scarce seem necessary to observe, that those introductions are esteemed the best which are most natural; that is, such as are taken from the subject-matter of the history itself, and closely connected with it. Such are those of Herodotus, Thucydides, Livy, Tacitus, and others. And therefore Sallust is greatly blamed by Quintilian on the account of his introductions, which are so general, that they might suit other histories as well as those to which they are prefixed. Introductions should likewise be proportioned to the length of the work. We meet with some few histories, in which the writers immediately enter upon their subject, without any introduction; as Xenophon in his Expedition of the younger Cyrus, and Cæsar in his Commentaries of the Gallic and Civil Wars. But the latter does not profess to write a just history; and therefore left himself more at liberty, as well in this respect as in some others.

2. But order is principally to be regarded in the body of the work. And this may be managed two ways; either by attending to the time in a chronological series, or the different nature and circumstances of the things contained in the history. However, as these two methods do not equally suit all subjects, we shall a little consider to what kind of histories each of them seems more properly adapted. All history then, as we have observed already, may be reduced to three sorts; *biography*, the *history of particular states*, and the *general history of several states* existing at the same time.

In biography, or the lives of particular persons, most writers follow the order of time; though some reduce them to certain general heads, as their virtues and vices, or their public and private character. Plutarch and Cornelius Nepos have taken the former method, and Suetonius the latter.

As to the history of particular states, the order of time is generally best, as being most natural and easy. And therefore it has usually been observed by the best historians, as Thucydides, Livy, and others. Tacitus, indeed, wrote two distinct works; one of which he called *Annals*, and the other *Histories*. And as in both he has kept to the order of time, critics have been at a loss to assign any other reason for these different titles, unless that in the former work he confines himself more closely to the facts themselves, and does not treat so largely upon the causes, manner, or event of them, as he has done in the latter. And even in the circumstances of facts, there is a certain order proper to be observed, for rendering the account more plain and intelligible. Thus, for instance, in the description of a battle or siege, the time should first be known, then the chief person or persons who conducted it, then the number of forces, and other requisites, afterwards the nature of the place, then the action itself, and lastly the event. But sometimes it is necessary to add the time in which several of the other circumstances happened, especially in actions of any considerable length. Where the order of these circumstances is confused, it perplexes the account, and renders it both less entertaining to the reader, and more difficult to remember.

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In a general history, the order of time cannot always be preserved; though, where the actions of different communities have respect to one as the principal, they should all, as far as possible, be referred to the transactions of that state. But even here the several affairs of those different states ought to be related separately, which will necessarily occasion the anticipating some things, and postponing others, so that they cannot all stand in the order of time in which they were performed. However, Velleius Paterculus says very justly with regard to this subject, "That every entire action, placed together in one view, is much better apprehended than if divided by different times." In this case, therefore, for better preserving the chronology, it is usual with historians, when they have finished any particular narrative, in passing to the next, to express the time by some short and plain transition; and sometimes to apologize for themselves, by assigning the reasons of their conduct. So Polybius, whose history is of this kind, says concerning himself: "As in writing the actions of each year, in the order of time, I endeavour to represent the affairs of the same nation together in one summary view, it is plain that inconvenience must of course attend this way of writing." Curtius professes only to write the actions of Alexander king of Macedon; but his history contains in it the principal affairs of the greatest states in the world during that period. Now although, in the course of those transactions, the war between Archelaus governor of Macedonia, and Agis king of Sparta, happened before the battle of Alexander at Arbela; yet the historian not only relates that battle first, but carries on the account of Alexander's affairs in Asia to the death of Darius without interruption; for which he gives this reason: "If I should relate the affairs of Alexander, which happened in the mean time, either in Greece or Illyrium and Thrace, each in their proper order and time, I must interrupt the affairs of Asia; which it is much better to represent together in one continued series as they fell out, to the flight and death of Darius." Such anachronisms, therefore, are nothing more than what necessarily arise sometimes from the nature of the subject: As every thing, the more complex it is, and contains under it a great number of parts, is more difficult to be digested in a regular order. But in an history composed of several states, whose affairs are independent of one another, the actions of each nation must necessarily be separated, in order to represent them in a just view, and prevent confusion. This is the method which Herodotus has taken, as likewise Diodorus Siculus and Justin. Now both the pleasure and benefit which such histories afford, arise from observing the conduct of each state separately in the course of their affairs, and then comparing one with the other. And as the order of time must frequently be interrupted, it is not unusual to continue the chronology at proper distances in relating the affairs of each nation; which preserves an unity in the whole, and connects it in one consistent body.

The division of histories into books was designed only for the better distinction of the subject and ease of the reader. And the dividing these books again into chapters, is rather a practice of later editors (founded, as they have thought, on the same reasons),

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sons), than countenanced by the example of ancient writers.

ART. IV. OF STYLE.

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Of style.

An historical style is said to be of a middle nature, between that of a poet and an orator, differing from both not only in the ornamental parts, but likewise in the common idioms and forms of expression.

De Clar.
Orat. c. 75.

Cicero observes, that "nothing is more agreeable in history than brevity of expression, joined with purity and perspicuity." Purity indeed is not peculiar to history, but yet it is absolutely necessary; for no one will ever think him fit to write an history who is not master of the language in which he writes: and therefore when Albinus had written an history of the Roman affairs in Greek, and apologized for any slips or improprieties that might be found in the language upon the account of his being a Roman, Cato called him a trisler, for choosing to do that which, after he had done it, he was obliged to ask pardon for doing. Nor is perspicuity less requisite in an historical style. The nature of the subject plainly directs to this. For as history consists principally in narration, clearness and perspicuity is nowhere more necessary than in a relation of facts. But these two properties are to be accompanied with brevity, since nothing is more disagreeable than a long and tedious narrative. And in this respect an historical style differs both from that of poetry and oratory. For the poet frequently heightens and enlarges his descriptions of facts, by dwelling upon every circumstance, placing it in different views, and embellishing it with the finest ornaments of wit and language, to render his images more agreeable; and the orator often does the like, with a design to strike the passions. But such colouring is not the business of an historian, who aims at nothing more than a just and faithful representation of what he relates, in a way best suited to its nature, and in such language as is most proper to set it in a plain and easy light.

De Orat.
lib. ii.
c. 15. 20.

Again, Cicero, treating of an historical style, says: "It ought to be fluent, smooth, and even, free from that harshness and poignancy which is usual at the bar." The properties here mentioned distinguish this style from that of judicial discourses, in which the orator often finds it necessary to vary his manner of speaking, in order to answer different views, either of pursuing an argument, pressing an adversary, addressing a judge, or recommending the merits of his cause. This occasions an inequality in his style, while he speaks sometimes directly, at other times by way of question, and intermixes short and concise expressions with round and flowing periods. But the historian has no necessity for such variations in his style. It is his province to espouse no party, to have neither friend nor foe, but to appear wholly disinterested and indifferent to all; and therefore his language should be smooth and equal in his relations of persons and their actions.

Epist. ad
Cn. Pompeium.

But further: Dionysius makes "decency a principal virtue in an historian;" which he explains by saying, that "he ought to preserve the characters of the persons and dignity of the actions of which he treats." And to do this it seems necessary that an historical style should be animated with a good degree of life

and vigour; without which neither the characters of eminent persons, nor their remarkable actions, which make up the main business of history, can be duly represented: for even things in themselves great and excellent, if related in a cold and lifeless manner, often do not affect us in a degree suitable to their dignity and importance. And this seems particularly necessary in speeches; in order to represent what every one says, according to his different country, age, temper, and station of life, in the same manner we may suppose he either really did, or would have spoken himself on that occasion. Besides, there are some scenes of action which require very pathetic and moving language to represent them agreeably to their nature. And in descriptions, the most beautiful tropes and lively figures are often necessary to set the ideas of things in a proper light. From whence it appears, that painting and imagery makes up no small part of the historian's province, though his colours are not so strong and glittering as those either of the poet or orator. He ought therefore to be well acquainted with the manners of men and the nature of the passions, since he is often obliged to describe both; in the former of which Herodotus excels, and Thucydides in the latter, as Dionysius has observed.

Now from these several properties laid down by ancient writers, as requisite for an historical style, it seems upon the whole to agree best with the middle character. And this will further appear, by what they say relating to the ornamental parts of style; namely, composition and dignity. As to the former of these, which respects the structure of sentences, and the several parts of them, Demetrius remarks, that "An historical period ought neither to rise very high, nor sink very low, but to preserve a medium." This simplicity (he says) "becomes the gravity and credit of history; and distinguishes it from oratory on the one hand, and dialogue on the other." His meaning is, that historical periods should neither be so full and sonorous as is frequent in oratory; nor yet so short and flat, as in dialogue: the former of which, as he says, require a strong voice to pronounce them; and the latter have scarce the appearance of periods. So that, according to this judicious writer, the periods best suited for history are those which, being of a moderate length, will admit of a just rise and cadence, and may be pronounced with ease. And Dionysius tells us, that "History should flow smooth and even, every where consistent with itself, without roughness or chasms in the sound." This relates to the harmony of periods, which arises from such a position of the words, as renders the sound pleasant and agreeable, and, as he thinks, ought to be attended to in history. And as to dignity, which respects the use of tropes and figures, the same author says, that "History should be embellished with such figures as are neither vehement nor carry in them the appearance of art." This is agreeable to what Cicero observes, in comparing Xenophon and Calisthenes, two Greek historians. "Xenophon the Socratic (says he) was the first philosopher, and after him Calisthenes, the scholar of Aristotle, who wrote an history: the latter almost like a rhetorician; but the style of the former is more moderate, and has not the force of an orator, De Orat. lib. iii. and c. 14.

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and pleasant." The difference between these two writers, with regard to their style, consisted chiefly in the choice of their figures; which in Xenophon were more gentle and moderate, and therefore in the judgment of Cicero more agreeable to history. Now these several properties relating to the ornaments of language, as well as those before mentioned, which by ancient writers have been thought requisite for history, are all suited to the middle style, as we have elsewhere shown at large. See ORATORY, n^o 99—121.

But notwithstanding this general account of the several properties which constitute an historical style, it admits of considerable varieties from the different nature and dignity of the subject. The lives of particular persons do not require that strength and majesty of expression, nor all those ornaments of language, as an history of the Roman empire. And accordingly we find the style of Nepos and Suetonius very different from that of Livy. The former is smooth and

easy, scarce rising above the low character; but the latter often approaches near to the sublime. And other historians again have kept a medium between these. Upon the whole, therefore, we may conclude, that the middle style is the proper character for history; though historians may sometimes sink into the low character, and at other times rise to the grandeur and magnificence of the sublime, from the different nature of their subject, or some particular parts of it. For that is to be esteemed the proper character of any writing which in the general best suits it. And this distinction may help us in some measure to reconcile the sentiments of writers upon this head who seem to attribute different characters to an historical style, or at least to judge where the truth lies; since a variety of style is not only requisite in different subjects, but likewise in different parts of the same work.

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H I T

History
" Hithe.

HISTORY of Nature, or Natural History. See NATURAL History.

HISTRIO, in the ancient drama, signified an actor or comedian; but more especially a pantomime, who exhibited his part by gestures and dancing. Livy informs us, that the histriones were brought to Rome from Etruria, in the year of the city 391, (Dec. i. lib. 7.)

HISTRIX. See HYSTRIX.

HITCHING, a large and populous town of Hartfordshire in England, situated near a large wood called *Hitchwood*. The manor was the ancient demesne of the kings of England, as it continues at this day; and it has been the dower of several of their queens. The town is reckoned the second in the county for number of streets, houses, and inhabitants. It was formerly famous for the staple commodities of the kingdom, and divers merchants of the staple of Calais resided here, since which that trade is lost. The inhabitants now make large quantities of malt; and the market is one of the greatest in England for wheat. W. Long. o. 20. N. Lat. 51. 55.

HITHE, a town of Kent in England, 70 miles from London. It is one of the cinque ports; and had formerly five parishes, but by the choaking up of its harbour and other accidents is now reduced to one. In the reign of Henry IV. numbers of its inhabitants were cut off by a pestilence, 200 of their houses consumed by fire, and five of their ships sunk at sea, with the loss of 100 men; so that the people were going to abandon the town, had not the king by his charter generously released to them, for five turns next following, their service of five ships of 100 men and five horse, which they were to have furnished out and kept at their own charge in the king's wars for 15 days. It was first incorporated by the name of *barons of the town and port of Hith*; but the government was afterwards changed. It was incorporated by Queen Elizabeth with the name of the mayor, jurats, and commonalty of the town and port of Hith, who with the freemen elect the members of parliament. The mayor is chose yearly on Candlemas-day. Here is a market on N^o 155.

H O A

Saturdays, and fairs in July and December. From hence to Canterbury is a paved Roman military-way, called *Stoney-Street*; and at a little distance from hence are the remains of the walls of a castle, which included 10 acres. There is a remarkable pile of dry bones in the town, 28 feet long, 6 broad, and 8 high; they are kept in a vault under the church in as good order as books in a library, consisting of several thousand heads, arms, legs, thigh-bones, &c. some very gigantic, and appear by an inscription to be the remains of the Danes and Britons killed in a battle near this place, before the Norman conquest. From hence to Boulogne is reckoned the shortest cut to France. E. Long. 1. 7. N. Lat. 51. 6.

HITTITES, the descendants of Heth. See HETH.

HIVE, in country affairs, a convenient receptacle for bees. See APIS and BEE.

HIVITES, a people descended from Canaan. They dwelt at first in the country which was afterwards possessed by the Caphtorims, or Philistines. There were Hivites likewise at Shechem and Gibeon, and consequently in the centre of the promised land; for the inhabitants of Shechem and the Gibeonites were Hivites, (Joshua xi. 19. Genesis xxxiv. 2.) Lastly, there were some beyond Jordan, at the foot of mount Hermon (Joshua xi. 3.) Bochart is of opinion, that Cadmus, who carried a colony of Phœnicians into Greece, was an Hivite. His name *Cadmus*, comes from the Hebrew *Kedem*, "the east," because he was of the eastern part of the land of Canaan. The name of his wife *Hermione*, comes from mount Hermon, at the foot whereof the Hivites had their dwelling. The metamorphosis of Cadmus's companions into serpents is grounded on the signification of the name *Hivites*, which in Phœnician signifies "serpents."

HOACHE, in natural history, a kind of earth approaching to the nature of chalk, but harder, and feeling like soap; whence some think that it is either the same with the soap-rock of Cornwall, or very like it. The Chinese dissolve it in water till the liquor is of the consistence of cream, and then varnish their China-ware with it.

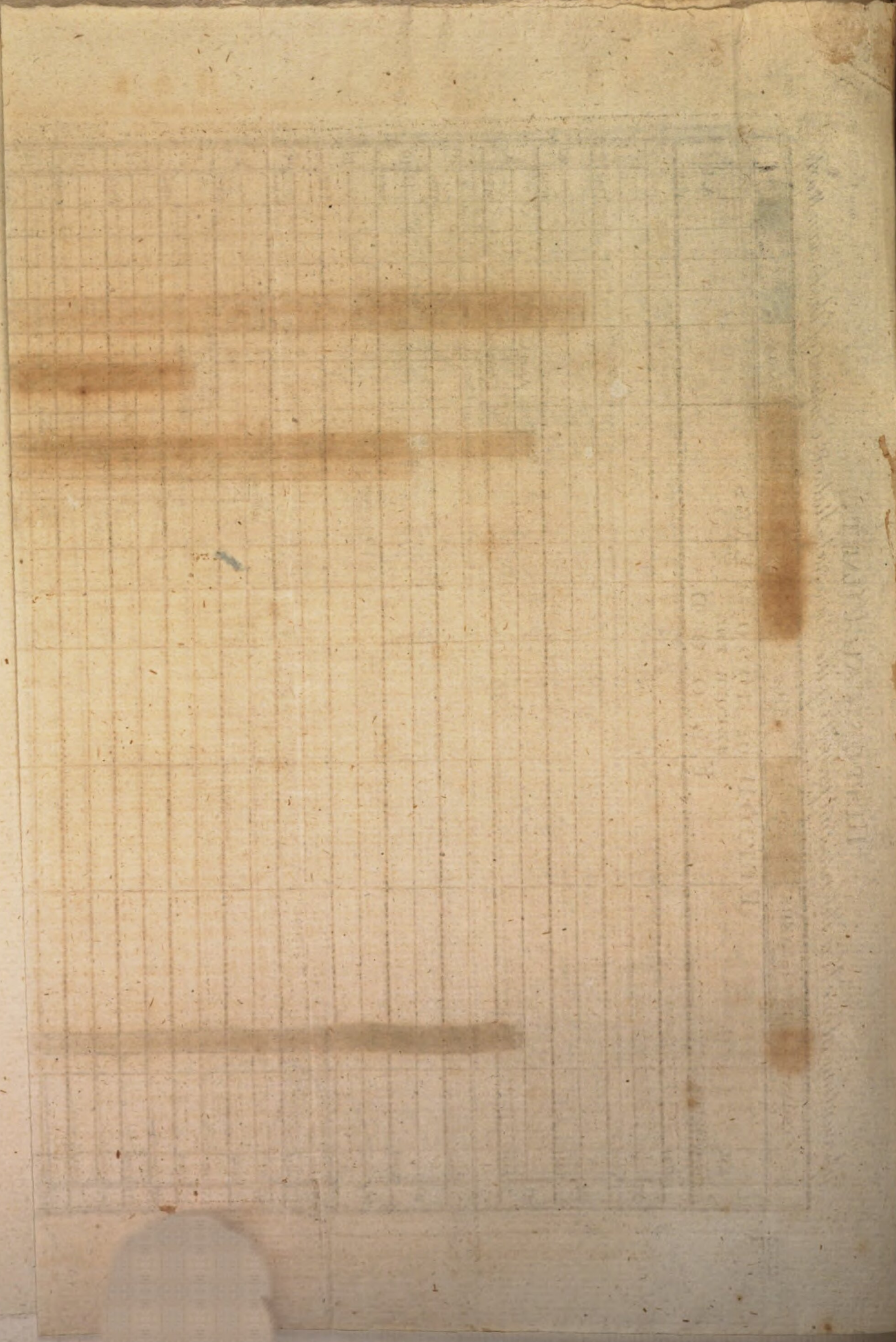
HOADLEY

Hittites
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Hoache.

HISTORICAL CHART, Representing at one View the Rise and progress of the Principal States & Empires of the known World.



Designed by Adam Ferguson LL.D. Professor of Moral Philosophy, in the University of Edinburgh.



Hoadley.

HOADLEY (Benjamin), successively bishop of Bangor, Hereford, Salisbury, and Winchester, was born in 1676. His first preferment in the church was the rectory of St Peter le Poor, and the lectureship of St Mildred's in the Poultry. In the year 1706, he published some Remarks on the late bishop Atterbury's sermon at the funeral of Mr Bennet, in which Dr Atterbury had, in the opinion of Mr Hoadley, laid down some dangerous propositions. Two years after, Mr Hoadley again entered the lists against this formidable antagonist; and in his *exceptions* against a sermon published by Dr Atterbury, intitled "The Power of Charity to cover Sin," he attacked the doctor with his usual strength of reasoning and dispassionate inquiry. In 1709, another dispute arose between these two learned combatants, concerning the doctrine of non-resistance, occasioned by a performance of Mr Hoadley's, intitled "The Measures of Obedience;" some positions in which Dr Atterbury endeavoured to confute in his elegant Latin sermon, preached that year before the London clergy. In this debate Mr Hoadley signalized himself in so eminent a degree, that the honourable house of commons gave him a particular mark of their regard, by representing, in an address to the queen, the signal services he had done to the cause of civil and religious liberty.—The principles, however, which he espoused being repugnant to the general temper of those times, drew on him the virulence of a party; yet it was at this period (1710, when, as he himself expressed it, *fury seemed to be let loose upon him*) that the late Mrs Howland presented him to the rectory of Streatham in Surrey, unasked, unapplied to, and without his either having seen her or been seen by her. Soon after the accession of king George I. Mr Hoadley was consecrated to the see of Bangor; and, 1717, having broached some opinions concerning the nature of Christ's kingdom, &c. he again became the object of popular clamour. At this juncture he was distinguished by another particular mark of the royal regard, by means of which the convocation was successively prorogued, and it was not permitted to sit, nor do any business, till that resentment was entirely subsided. In 1721 he was translated to Hereford; and from thence, in 1723, to Salisbury. In 1734, he was translated to Winchester (on the demise of Dr Willis), and published his *Plain Account of the Sacrament*: a performance which served as a butt for his adversaries to shoot at, yet impartially owns it to be clear, rational, and manly, wrote with great candour and judgment, and suited to the capacity of every serious and considerate inquirer after truth.—His latter days were embittered by a most vile instance of fraud and ingratitude. The bishop took a French priest, who pretended to abjure his religion, under his protection, with no other recommendation than that of his necessities; in return for which act of humanity, the priest found an opportunity of getting the bishop's name written by his own hand, and, causing a note of some thousand pounds to be placed before it, offered it in payment. But the bishop denying it to be his, it was brought before a court of justice, and was there found to be a gross imposition. The ungrateful villain had now recourse to a pamphlet, in which he charged the bishop with being a drunkard; and alleged that he had the note of him when he was

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in liquor. To this calumny the bishop made a full and nervous answer; in which he exposed the man's falsehood, and solemnly averred that he was never drunk in his whole life. The world with becoming ardour embraced his defence, and he had the happiness to find himself perfectly acquitted even of any suspicion of such a charge. As a writer, he possessed uncommon abilities. His sermons (published in 1754 and 1755) are esteemed inferior to few writings in the English language, for plainness and perspicuity, energy and strength of reasoning, and a free and masterly manner. In private life, he was naturally facetious, easy, and complying; fond of company, yet would frequently leave it for the purposes of study or devotion. He was every where happy; and particularly in his own family, where he took all opportunities of instructing by his influence and example. He died in 1761, aged 83. Besides the works already mentioned, he wrote, 1. *Terms of Acceptance*, 8vo. 2. *Reasonableness of Conformity*. 3. *On the Sacrament*. His tracts and pamphlets are extremely numerous; and the reader may see a complete catalogue of them in his life inserted in the supplement to the *Biographia Britannica*.

HOADLEY (Benjamin, M. D.), son of the former, was born in 1706; and studied at Bennet college Cambridge, under the tuition of Dr Herring afterwards archbishop of Canterbury. He took his degree in physic; and particularly applying himself to mathematical and philosophical studies, was, when very young, admitted a member of the royal society. He was made regifter of Hereford while his father filled that see, and was early appointed physician to his majesty's household, but died at his house in Chelsea in 1757. He wrote, 1. *Three Letters on the organs of respiration*, 4to. 2. *The Suspicious Husband*, a comedy. 3. *Observations on a series of electrical experiments*; and, 4. *Oratio anniversaria, in Theatro Col. Med. Londin. ex Harvei instituto habita die Octob. 1742*.

HOAI-NGAN-FOU, a city of China, in the province of Hiang-nan. According to Grosier, it is situated in a marsh, and is enclosed by a triple wall. As the ground on which it stands is lower than the bed of the canal, the inhabitants live in continual dread of an inundation. The suburbs extend to the distance of a league on each side of the canal, and form at their extremity a kind of port on the river Hoang-ho. This place is very populous, and every thing in it announces an active and brisk trade. One of those great mandarins who have the inspection of the canals and navigation, and who are also obliged to supply the court with necessary provisions, resides here. This city has eleven other under its jurisdiction; two of which are of the second, and nine of the third class.

HOAR-BOUND, in botany. See MARUBIUM.

HOARSENESS, in medicine, a diminution of the voice, commonly attended with a preternatural asperity and roughness thereof. The parts affected are the *aspera arteria* and larynx. For its causes and cure, see (the *Index* subjoined to) MEDICINE.

HOBAL, in mythology, an idol of the ancient Arabs, the worship of which at Mecca was destroyed by Mahomet.

HOBBS (Thomas), a famous writer, born at Malmesbury in 1588, was the son of a clergyman. He

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Hoadley

Hobbes.

Hobbes. completed his studies at Oxford, and was afterwards governor to the eldest son of William Cavendish earl of Devonshire. He travelled through France and Italy with that young nobleman, and at length applied himself entirely to the study of polite literature. He translated Thucydides into English; and published his translation in 1628, in order to show his countrymen, from the Athenian history, the disorders and confusions of a democratical government. In 1626 his patron the earl of Devonshire died; and in 1628 his son died also: which loss affected Mr Hobbes to such a degree, that he very willingly accepted an offer made him of going abroad a second time with the son of Sir Gervase Clifton; whom he accordingly accompanied into France, and staid there some time. But while he continued there, he was solicited to return to England, and to resume his concern for the hopes of that family to whom he had attached himself so early, and to which he owed so many and so great obligations. In 1631, the countess dowager of Devonshire desired to put the young earl under his care, who was then about the age of 13. This was very suitable to Mr Hobbes's inclinations, who discharged that trust with great fidelity and diligence. In 1634, he republished his translation of Thucydides, and prefixed to it a dedication to that young nobleman, in which he gives a large character of his father, and represents in the strongest terms the obligations he was under to that illustrious family. The same year he accompanied his noble pupil to Paris, where he applied his vacant hours to the study of natural philosophy, and more especially to the perfect understanding of mechanism, and the causes of animal motion. He had frequent conversations upon these subjects with father Marin Mersenne; a man deservedly famous, and who kept up a correspondence with almost all the learned in Europe. From Paris he attended his pupil into Italy, where at Pisa he became known to that great astronomer Galileo Galilei, who communicated to him his notions very freely; and after having seen all that was remarkable in that country, he returned with the earl of Devonshire into England. Afterwards, foreseeing the civil wars, he went to seek a retreat at Paris; where, by the good offices of his friend father Mersenne, he became known to the famous Renatus des Cartes, and afterwards held a correspondence with him upon several mathematical subjects, as appears from the letters of Mr Hobbes published in the works of Des Cartes. But when this philosopher printed afterwards his Meditations, wherein he attempted to establish points of the highest consequence from innate ideas, Mr Hobbes took the liberty of dissenting from him; as did also the French king's mathematical professor, the illustrious Peter Gassendi, with whom Mr Hobbes contracted a very close friendship, which was not interrupted till the death of the former. In 1642, Mr Hobbes printed a few copies of his famous book *De Cive*, which, in proportion as it became known, raised him many adversaries, who charged him with instilling principles which had a dangerous tendency. Among many illustrious persons who, upon shipwreck of the royal cause, retired to France for safety, was Sir Charles Cavendish, brother to the duke of Newcastle: and this gentleman, being skilled in every branch of the mathematics, proved a

constant friend and patron to Mr Hobbes; who, by Hobbes. embarking in 1645 in a controversy about squaring the circle, was grown so famous for it, that in 1647 he was recommended to instruct Charles prince of Wales, afterwards king Charles II. in that kind of learning. His care in the discharge of this office gained him the esteem of that prince in a very high degree: and tho' he afterwards withdrew his public favour to Mr Hobbes on account of his writings, yet he always retained a sense of the services he had done him; showed him various marks of his favour after he was restored to his dominions; and, as some say, had his picture hanging in his closet. This year also was printed in Holland, by the care of M. Sorbriere, a second and more complete edition of his book *De Cive*; to which are prefixed two Latin letters to the editor, the one by Mr Gassendi, the other by father Mersenne, in commendation of it: and in 1650 was published at London a small treatise of Mr Hobbes's, intitled, *Human Nature*; and another, *De corpore politico*, or "Of the elements of the law."

All this time Mr Hobbes had been digesting with great care and pains his religious, political, and moral principles, into a complete system, which he called the *Leviathan*, and which was printed in English at London in 1650 and 1651. After the publication of his *Leviathan* he returned to England, and passed the summer commonly at his patron the earl of Devonshire's seat in Derbyshire, and some of his winters in town, where he had for his intimate friends some of the greatest men of the age. In 1660, upon the restoration, he quitted the country, and came up to London, where he obtained from the king assurance of protection, and had an annual pension of L. 100 settled upon him out of the privy purse. Yet this did not render him entirely safe: for, in 1666, his *Leviathan* and his treatise *De Cive* were censured by parliament; which alarmed him very much, as did also the bringing in of a bill into the house of commons to punish atheism and profaneness. When this storm was a little blown over, he began to think of procuring a beautiful edition of his pieces that were in Latin; but finding this impracticable in England, he caused it to be undertaken abroad, where they were published in quarto in 1668, from the press of John Bleau. In 1669, he was visited by Cosmo de Medicis, then prince, afterwards duke of Tuscany, who gave him ample marks of his esteem and respect; and having received his picture, and a complete collection of his writings, caused them to be repositied, the former among his curiosities, the latter in his noble library at Florence. The like visits he received from foreign ambassadors and other strangers of distinction; who were curious to see a person whose singular opinions and numerous writings had made so much noise all over Europe. In 1672, he wrote his own life in Latin verse, when, as he observes, he had completed his 84th year: and, in 1674, he published in English verse four books of Homer's *Odyssey*; which was so well received, that it encouraged him to undertake the whole *Iliad* and *Odyssey*, which he likewise performed and published in 1675. About this time he took his leave of London, and went to spend the remainder of his days in Derbyshire: where, however, he did not remain inactive, notwithstanding his advanced

Hobbes. vanced age; but published from time to time several pieces, to be found in the collection of his works. He died in 1679, aged 92.

As to his character and manners, they are thus described by Dr White Kennet, in his *Memoirs of the Cavendish family*. "The earl of Devonshire (says he) for his whole life entertained Mr Hobbes in his family, as his old tutor, rather than as his friend or confidant. He let him live under his roof in ease and plenty, and in his own way, without making use of him in any public, or so much as domestic affairs. He would often express an abhorrence of some of his principles in policy and religion; and both he and his lady would frequently put off the mention of his name, and say, 'He was a humorist, and nobody could account for him.' There is a tradition in the family, of the manners and customs of Mr Hobbes, somewhat observable. His professed rule of health was to dedicate the morning to his exercise, and the afternoon to his studies. And therefore, at his first rising, he walked out, and climbed any hill within his reach; or if the weather was not dry, he fatigued himself within doors by some exercise or other, to be in a sweat: recommending that practice upon this opinion, that an old man had more moisture than heat, and therefore by such motion heat was to be acquired and moisture expelled. After this, he took a comfortable breakfast; and then went round the lodgings to wait upon the earl, the countess, and the children, and any considerable strangers, paying some short addresses to all of them. He kept these rounds till about 12 o'clock, when he had a little dinner provided for him, which he eat always by himself without ceremony. Soon after dinner he retired to his study, and had his candle with 10 or 12 pipes of tobacco laid by him; then shutting his door, he fell to smoking, thinking, and writing, for several hours. He retained a friend or two at court, and especially the lord Arlington, to protect him if occasion should require. He used to say, that it was lawful to make use of ill instruments to do ourselves good: 'If I were cast (says he) into a deep pit, and the devil should put down his cloven foot, I would take hold of it to be drawn out by it.' After the restoration, he watched all opportunities to ingratiate himself with the king and his prime ministers; and looked upon his pension to be more valuable, as an earnest of favour and protection, than upon any other account. His future course of life was to be free from danger. He could not endure to be left in an empty house. Whenever the earl removed, he would go along with him, even to his last stage, from Chatsworth to Hardwick. When he was in a very weak condition, he dared not to be left behind, but made his way upon a feather-bed in a coach, though he survived the journey but a few days. He could not bear any discourse of death, and seemed to cast off all thoughts of it: he delighted to reckon upon longer life. The winter before he died, he made a warm coat, which he said must last him three years, and then he would have such another. In his last sickness his frequent questions were, Whether his disease was curable? and when intimations were given, that he might have ease, but no remedy, he used this expression, 'I shall be glad to find a hole to creep out of the world at;' which are reported to have been his last sensible words; and his lying some

days following in a silent stupefaction, did seem owing to his mind more than to his body."

The reverend Mr Granger observes, that Hobbes's style is incomparably better than that of any other writer in the reign of Charles I. and was for its uncommon strength and purity scarcely equalled in the succeeding reign. "He has in translation (says he) done Thucydides as much justice as he has done injury to Homer; but he looked upon himself as born for much greater things than treading in the steps of his predecessors. He was for striking out new paths in science, government, and religion; and for removing the land-marks of former ages. His ethics have a strong tendency to corrupt our morals, and his politics to destroy that liberty which is the birthright of every human creature. He is commonly represented as a sceptic in religion, and a dogmatist in philosophy; but he was a dogmatist in both. The main principles of his *Leviathan* are as little founded in moral or evangelical truths, as the rules he has laid down for squaring the circle are in mathematical demonstration. His book on human nature is esteemed the best of his works."

HOBIMA (Minderhout), an eminent landscape painter, was born about the year 1611 at Antwerp; but the master from whom he received his instruction is not known. He studied entirely after nature, sketching every scene that afforded him pleasure, and his choice was exceedingly picturesque. His grounds are always agreeably broken, and he was particularly fond of describing slopes diversified with shrubs, plants, or trees, which conducted the eye to some building, ruin, grove, or piece of water, and frequently to a delicate remote distance, every object perspectively contributing to delude our observation to that point. The figures which he himself designed are but indifferent, which was a defect imputable to Claude Lorraine and Gaspar Poussin as well as to Hobbima; but the latter, conscious of his inability in that respect, admitted but few figures into his designs, and those he usually placed somewhat removed from the immediate view at a prudent distance from the front line. However, most of his pictures were supplied with figures by Ostade, Teniers, and other very famous masters, which must always give them a great additional value. They are now exceedingly scarce, and industriously sought for.

HOBBY, the name of a hawk called by some authors *subbuteo*. See FALCO.

It is a hawk of the lure, and not of the fist; and is very like the saker, only much less. It makes excellent sport with net and spaniels; for when the birds see the hobby, they dare not commit themselves to the wing, but lie close to the ground, and so are taken in nets.

HOBBY is also a name formerly given to strong active horses of a middling size: they are reported to have been originally natives of Ireland, and were much liked and used. Nags answer the same description as to size, qualities, and employments.

HOBGOBLIN is a name vulgarly applied to fairies or apparitions. Skinner calls the word *robgooblins*, and derives it from Robin Goodfellow, Hob being the nick-name of Robin; but Wallis and Junius, with greater probability, derive it from *hopgooblins*, *empulse*, because

Hobbes.

Hobgoblin.

Hoblers
Hody.

because they are supposed to hop without moving both their feet.

HOBBLERS, or **HOBILERS**, *Hobelarii*, in our ancient customs, were men who, by their tenure, were obliged to maintain a light horse or hobby, for the certifying any invasion towards the sea-side.—The name was also used for certain Irish knights, who used to serve as light horsemen upon hobbies.

HOB-NAIL, a nail with a thick strong head, used in shoeing a hobby or little horse.

HOB-NOB, or **HAB-NAB**, a cant word formed from *hap ne hap*, and denoting an event which happens at random or by mere chance.

HOBBOO, a name given by the people of Otaheite, and in the neighbouring islands of the South Sea, to their superfine cloth. It is the thinnest and most finished preparation of the aouta.

HOBSSHEE-COFFREES, a kind of Abyssinian slaves very frequent in the empire of Hindostan. They come mostly from a province subject to the Negus of Ethiopia, called Innariah, to the south of his other dominions, and bordering upon Negroeland in Africa; from whence they are selected, and a great traffic made of them over all Mogolistan and Persia; but it is chiefly from the ports of Arabia and the Red Sea that they are brought. Nothing can be imagined more smooth or glossy, and perfectly black, than their skin; in which they far surpass the negroes on the coast of Guinea; and, generally speaking, have not any thing of their thick lips, though otherwise as woolly haired as they. They are highly valued for their courage, fidelity, and shrewdness; in which they so far excel, as often to rise to posts of great honour, and are made governors of places under the title *Siddees*.

HOBSON'S-CHOICE, a vulgar proverbial expression, applied to that kind of choice in which there is no alternative. It is said to be derived from the name of a carrier at Cambridge, who let out hackney horses, and obliged each customer to take in his turn that horse which stood next the stable door.

HOCUS-POCUS, a cant expression with which the exhibitors of legerdemain tricks generally preface their feats. They are thought to be derived from that arch legerdemain trick of the Romish priests converting the sacramental bread into Deity; in which wonderful metamorphosis the words *hoc est corpus* made a conspicuous part of the ceremony, and which words may be considered as the probable root of our modern *hocus-pocus*.

HOD, a sort of tray for carrying mortar, in use among bricklayers.

HODEGOS, a term purely Greek, *οδὸς*, signifying *guide*. The word is chiefly used as the title of a book composed by Anastasius the Sinate, towards the close of the fifth century; being a method of disputing against the heretics, particularly the Acephali.

Mr Toland has also published a dissertation under the same title. Its subject is the pillar of fire, &c. which went before the Israelites as a guide in the desert.

HODGE-PODGE. See **HOTCH-POT**.

HODMAN, a cant term formerly used for a young scholar admitted from Westminster-school to be student in Christ church in Oxford.

HODY (Humphry), a learned English divine, was born in 1659. At 21 years of age, he published his ce-

lebrated Dissertation against Aristæus's history of the 70 interpreters; which was received with great applause by all the learned, Isaac Vossius excepted, who could not bear to have his opinions opposed by such a youth. Twenty years after, he treated the subject more fully in his *De Bibliorum textibus originalibus, versionibus Græcis & Latina vulgata, libri IV*. In 1689, he wrote the *Prologomena* to John Melala's Chronicle, printed at Oxford; and the year after was made chaplain to Dr Stillingfleet bishop of Worcester. The deprivation of the nonjuring bishops engaged him in a controversy with Mr Dodwell; which recommended him to archbishop Tillotson, to whom, and his successor Dr Tennison, he was domestic chaplain. In 1698 he was made regius professor of the Greek tongue at Oxford, and archdeacon of Oxford in 1704. On occasion of the controversy about the convocation, he, in 1701, published A history of English councils and convocations, and of the clergy's sitting in parliament, &c. He died in 1706, leaving in MS. An account of those learned Grecians who retired to Italy on the taking of Constantinople, &c. which was published in 1742 by Dr Jebb.

HOE, or **How**, a husbandman's tool, made like a cooper's adz, to cut up weeds in gardens, fields, &c. This instrument is of great use, and ought to be much more employed than it is in hacking and clearing the several corners and patches of land in spare times of the year, which would be no small advantage to it.

Horse-Hoe a large kind of hoe drawn by horses, and used to stir the intervals in the new husbandry, and clear the corn from weeds. See **AGRICULTURE**.

HOEING, in the new husbandry, is the breaking or dividing the soil by tillage while the corn or other plants are growing thereon.—It differs from common tillage (which is always performed before the corn or plants are sown or planted) in the time of performing it; and it is much more beneficial to the crops than any other tillage. This sort of tillage is performed various ways, and by means of different instruments, as described under the article **AGRICULTURE**.

HOEI-TCHEOU, the most southern city of the province of Kiang-nan in China, and one of the richest of the empire. The people are economical and temperate, but they are active and enterprising in trade: they boast of their tea, varnish, and engravings, which are indeed the most esteemed in China. It has dependent upon it six cities of the third class; the mountains which surround this canton contain gold, silver, and copper mines.

HOEMATOPUS, in ornithology; a genus of birds, of the order of grallæ. It has a long compressed bill, with the end cuneated; the nostrils are linear, and the feet have only three toes. There is but one species, the ostralegus, sea-pie, or oyster-catcher. They are very common on most of our coasts; feeding on marine insects, oysters, limpets, &c. Their bills, which are compressed sideways, and end obtusely, are very fit instruments to insinuate between the limpet and the rock to which these shells adhere; which they do with great dexterity to get at the fish. On the coast of France, where the tides recede so far as to leave the beds of oysters bare, these birds feed on them, forcing the shells open with their bills. They keep in summer-time in pairs, laying their eggs

Hoe
Hoemato-
pus.

Plate
CCXXXIV.

Hoffman
Hog.

on the bare ground: they lay four of a whitish-brown hue, thinly spotted and striped with black; and when any one approaches their young, they make a loud and shrill noise. In winter they assemble in vast flocks, and are very wild. The head, neck, scapulars, and coverts of the wings of this bird, are of a fine black; in some the neck is marked with white; the wings dusky, with a broad transverse band of white; the bill three inches long, and of a rich orange colour.

HOFFMAN, the name of several eminent physicians; of whom Maurice Hoffman, and John Maurice Hoffman his son, practised at Altorf. Maurice died in 1698, leaving behind him many works; and was succeeded by his son John Maurice, who wrote as well as his father, and died in 1727, highly esteemed by the faculty.—Frederic Hoffman, probably of the same family, was born at Magdeburg in 1660. The principal known circumstances of his life are, his journey into Holland and England, where he became intimately acquainted with Paul Herman and Robert Boyle; never taking any fees, being supported by his annual stipend; his curing the emperor Charles VI. and Frederic I. king of Prussia of inveterate diseases; to which may be added, his accurate knowledge of the nature and virtues of mineral waters. He survived his 80th year; and his works, which are in great esteem, were printed in six volumes folio at Geneva, in 1740.

HOFFMANISTS, in ecclesiastical history, denote those who espoused the sentiments of Daniel Hoffmann, professor of the university of Helmstadt, who, from the year 1598, maintained, that philosophy was a mortal enemy to religion; and that what was true in philosophy was false in theology. These absurd and pernicious tenets occasioned a warm and extensive controversy: at length Hoffmann was compelled by Julius duke of Brunswick to retract his invectives against philosophy, and to acknowledge, in the most open manner, the harmony and union of sound philosophy with true and genuine theology.

HOG, in zoology. See SUS.

Hog, on board of a ship, is a sort of flat scrubbing broom, formed by inclosing a number of short twigs of birch or such wood between two pieces of plank fastened together, and cutting off the ends of the twigs, and serving to scrape the filth from a ship's bottom under water, particularly in the act of boot-topping. For this purpose they fit to this broom a long staff with two ropes; one of which is used to thrust the hog under the ship's bottom, and the other to guide and pull it up again close to the planks. This business is commonly performed in the ship's boat, which is confined as close as possible to the vessel's side during the operation, and shifted from one part of the side to another till the whole is completed.

Hog's Dung is by Mortimer reckoned one of the richest manures we are acquainted with, and the next in value to sheep's dung; and is found to be equal in virtue to twice the quantity of any other dung except this. The ancients seem to have been displeased with it on account of its breeding weeds; but this is only accusing it of being too rich, for any dung will do this when laid too thick. It is an excellent manure for pasture-grounds, and excels all other kinds of dung

for trees. The farmers who use this dung for their lands, generally take care to save it, by well-paving the styes; and increase the quantity by throwing in bean-stalks, stubble, and many other things of a like nature: and, by good management of this kind, many farmers have procured 50 or 60 loads of excellent manure a year out of a small stye. The very best way of using this dung is by mixing it with horse-dung; and for this reason it is best to have the stye near the stable, that the two cleanings may be mixed in one heap, and used together.

They have in many parts of Staffordshire a poor, light, shallow land, on which they sow a kind of white pea: the land is neither able to bear this nor any thing else to advantage for their reaping; but, when the peas are ripe, they turn in as many hogs as the quantity of pease will fatten, suffering them to live at large, and to remain there day and night: in consequence of this, the land will produce good crops of hay for several years afterwards; or, if too poor for that, it will at worst raise grass enough to make it good pasture-ground.

Hog's Lard. See AXUNGIA.

HOGARTH (William), a truly great and original genius, is said by Dr Burn to have been the descendant of a family originally from Kirkby Thore, in Westmoreland. His father, who had been a schoolmaster in the same county, went early to London, where he was employed as a corrector of the press; and appears to have been a man of some learning, a dictionary in Latin and English, which he composed for the use of schools, being still existing in MS. He married in London; and kept a school in Ship Court, in the Old-Bailey. Our hero was born in 1697 or 1698, in the parish of St Martin Ludgate. The outset of his life, however, was unpromising. "He was bound," says Mr Walpole, "to a mean engraver of arms on plate." Hogarth probably chose this occupation, as it required some skill in drawing; to which his genius was particularly turned, and which he contrived assiduously to cultivate. His master, it since appears, was Mr Ellis Gamble, a silversmith of eminence, who resided in Cranbourn-street, Leicester-fields. In this profession it is not unusual to bind apprentices to the single branch of engraving arms and cyphers on every species of metal; and in that particular department of the business young Hogarth was placed; "but, before his time was expired, he felt the impulse of genius, and that it directed him to painting." During his apprenticeship, he set out one Sunday, with two or three companions, on an excursion to Highgate. The weather being hot, they went into a public-house, where they had not been long before a quarrel arose between some persons in the same room. One of the disputants struck the other on the head with a quart pot, and cut him very much. The blood running down the man's face, together with the agony of the wound, which had distorted his features into a most hideous grin, presented Hogarth, who showed himself thus early "apprised of the mode Nature had intended he should pursue," with too laughable a subject to be overlooked. He drew out his pencil, and produced on the spot one of the most ludicrous figures that ever was seen. What rendered this piece the more valuable was, that it exhibited

Hog,
Hogarth.

Hogarth. hibited an exact likeness of the man, with the portrait of his antagonist, and the figures in caricature of the principal persons gathered round him.

How long he continued in obscurity we cannot exactly learn; but the first piece in which he distinguished himself as a painter is supposed to have been a representation of Wanstead Assembly. The figures in it, we are told, were drawn from the life, and without any circumstances of burlesque. The faces were said to be extremely like, and the colouring rather better than in some of his late and more highly finished performances. From the date of the earliest plate that can be ascertained to be the work of Hogarth, it may be presumed that he began business on his own account at least as early as 1720.

His first employment seems to have been the engraving of arms and shop-bills. The next was to design and furnish plates for booksellers. Mr Bowles, at the Black Horse in Cornhill, was one of his earliest patrons, whose prices were very low. His next friend in that line was Mr Philip Overton, who paid him somewhat better for his labour and ingenuity.

There are still many family pictures by Hogarth existing, in the style of serious conversation-pieces. What the prices of his portraits were, Mr Nichols strove in vain to discover; but he suspects they were originally very low, as the people who are best acquainted with them choose to be silent on that subject.

It happened, in the early part of Hogarth's life, that a nobleman who was uncommonly ugly and deformed came to sit to him for his picture. It was executed with a skill that did honour to the artist's abilities; but the likeness was rigidly observed, without even the necessary attention to compliment or flattery. The peer, disgusted at this counterpart of his dear self, never once thought of paying for a reflector that would only insult him with his deformities. Some time was suffered to elapse before the artist applied for his money; but afterwards many applications were made by him (who had then no need of a banker) for payment, without success. The painter, however, at last hit upon an expedient, which he knew must alarm the nobleman's pride, and by that means answer his purpose. It was couched in the following card: "Mr Hogarth's dutiful respects to lord —; finding that he does not mean to have the picture which was drawn for him, is informed again of Mr H.'s necessity for the money: if, therefore, his lordship does not send for it in three days, it will be disposed of, with the addition of a tail, and some other little appendages, to Mr Hare, the famous wild-beast man; Mr H. having given that gentleman a conditional promise of it for an exhibition-picture on his lordship's refusal." This intimation had the desired effect. The picture was sent home, and committed to the flames.

Mr Walpole has remarked, that if our artist "indulged his spirit of ridicule in personalities, it never proceeded beyond sketches and drawings;" and wonders "that he never, without intention, delivered the very features of any identical person." Mr Nichols assures us, from unquestionable authority, that almost all the personages who attend the levee of the Rake were undoubted portraits; and that in "Southwark Fair," and the "Modern Midnight Conversation," as many

more were discoverable. While Hogarth was painting the "Rake's Progress," he had a summer residence at Isleworth; and never failed to question the company who came to see these pictures, if they knew for whom one or another figure was designed. When they guessed wrong, he set them right.

The Duke of Leeds has an original scene in the "Beggar's Opera," painted by Hogarth. It is that in which Lucy and Polly are on their knees, before their respective fathers, to intercede for the life of the hero of the piece. All the figures are either known or supposed to be portraits. If we are not misinformed, the late Sir Thomas Robinson (perhaps better known by the name of Long Sir Thomas) is standing in one of the side-boxes. Macheath, unlike his spruce representative on our present stage, is a slouching bully; and Polly appears happily disencumbered of such a hoop as the daughter of Peachum within our younger memories has worn. Mr Walpole has a picture of a scene in the same piece, where Macheath is going to execution. In this also the likenesses of Walker and Miss Fenton, afterwards duchess of Bolton (the first and original Macheath and Polly) are preserved. In the year 1726, when the affair of Mary Tofts, the rabbit-breeder of Godalming, engaged the public attention, a few of our principal surgeons subscribed their guinea a-piece to Hogarth, for an engraving from a ludicrous sketch he had made on that very popular subject. This plate, amongst other portraits, contains that of the St André, then anatomist to the royal household, and in high credit as a surgeon. In 1727, Hogarth agreed with Morris, an upholsterer, to furnish him with a design on canvas, representing the element of earth, as a pattern for tapestry. The work not being performed to the satisfaction of Morris, he refused to pay for it; and our artist, by a suit at law, recovered the money.

In 1730, Mr Hogarth married the only daughter of Sir James Thornhill, by whom he had no child. This union, indeed, was a stolen one, and consequently without the approbation of Sir James, who, considering the youth of his daughter, then barely 18, and the slender finances of her husband, as yet an obscure artist, was not easily reconciled to the match. Soon after this period, however, he began his "Harlot's Progress" (the coffin in the last place is inscribed Sept. 2. 1731); and was advised by lady Thornhill to have some of the scenes in it placed in the way of his father-in-law. Accordingly, one morning early, Mrs Hogarth undertook to convey several of them into his dining-room. When he arose, he inquired from whence they came; and being told by whom they were introduced, he cried out, "Very well; the man who can furnish representations like these can also maintain a wife without a portion." He designed this remark as an excuse for keeping his purse-strings close; but, soon after, became both reconciled and generous to the young people. An allegorical ceiling by Sir James Thornhill is at the house of the late Mr Huggins, at Headly Park, Hants. The subject of it is the story of Zephyrus and Flora; and the figure of a satyr and some others were painted by Hogarth.

In 1732, Hogarth ventured to attack Mr Pope, in a plate called "The Man of Taste;" containing a view

Hogarth. view of the Gate of Burlington-house, with Pope whitewashing it and bespattering the duke of Chandos's coach. This plate was intended as a satire on the translator of Homer, Mr Kent the architect, and the earl of Burlington. It was fortunate for Hogarth that he escaped the lash of the former. Either Hogarth's obscurity at that time was his protection, or the bard was too prudent to exasperate a painter who had already given such proof of his abilities for satire.

Soon after his marriage, Hogarth had summer lodgings at South-Lambeth; and being intimate with Mr Tyers, contributed to the improvement of the Spring Gardens at Vauxhall, by the hint of embellishing them with paintings, some of which were the suggestions of his own truly comic pencil. For his assistance, Mr Tyers gratefully presented him with a gold ticket of admission for himself and his friends.

In 1733, his genius became conspicuously known. The third scene of his "Harlot's Progress" introduced him to the notice of the great. At a board of treasury which was held a day or two after the appearance of that print, a copy of it was shown by one of the lords, as containing, among other excellencies, a striking likeness of Sir John Gonson. It gave universal satisfaction: from the treasury each lord repaired to the print-shop for a copy of it, and Hogarth rose completely into fame.

The ingenious Abbé Du Bos has often complained that no history-painter of his time went through a series of actions, and thus, like an historian, painted the successive fortune of an hero from the cradle to the grave. What Du Bos wished to see done, Hogarth performed. He lances out his young adventurer a simple girl upon the town, and conducts her through all the vicissitudes of wretchedness to a premature death. This was painting to the understanding and to the heart; none had ever before made the pencil subservient to the purposes of morality and instruction: a book like this is fitted to every soil and every observer; and he that runs may read. Nor was the success of Hogarth confined to his persons. One of his excellencies consisted in what may be termed the furniture of his pieces; for as, in sublime and historical representations, the fewer trivial circumstances are permitted to divide the spectator's attention from the principal figures, the greater is their force; so, in scenes copied from familiar life, a proper variety of little domestic images contributes to throw a degree of verisimilitude on the whole. "The Rake's levee-room," says Mr Walpole, "the nobleman's dining-room, the apartments of the husband and wife in Marriage à la Mode, the alderman's parlour, the bed-chamber, and many others, are the history of the manners of the age."

In 1745, Hogarth sold about 20 of his capital pictures by auction; and in the same year acquired additional reputation by the six prints of "Marriage à la Mode," which may be regarded as the ground-work of a novel called "The Marriage Act," by Dr Shebbeare, and of "The clandestine Marriage."

Soon after the peace of Aix la Chapelle, he went over to France, and was taken into custody at Calais while he was drawing the gate of that town; a circumstance which he has recorded in his picture, intitled, "O the Roast Beef of Old England!" pub-

lished March 26. 1749. He was actually carried before the governor as a spy, and after a very strict examination committed a prisoner to Granfire, his landlord, on his promising that Hogarth should not go out of his house till he was to embark for England.

In 1753, he appeared to the world in the character of an author, and published a quarto volume, intitled, "The Analysis of Beauty, written with a view of fixing the fluctuating ideas of taste." In this performance he shows, by a variety of examples, that a curve is the line of beauty, and that round swelling figures are most pleasing to the eye; and the truth of his opinion has been countenanced by subsequent writers on the subject. In this work, the leading idea of which was hieroglyphically thrown out in a frontispiece to his works in 1745, he acknowledges himself indebted to his friends for assistance, and particularly to one gentleman for his corrections and amendments of at least a third part of the *wording*. This friend was Dr Benjamin Hoadley the physician, who carried on the work to about the third part, Chap. IX. and then, through indisposition, declined the friendly office with regret. Mr Hogarth applied to his neighbour Mr Ralph; but it was impossible for two such persons to agree, both alike vain and positive. He proceeded no farther than about a sheet, and they then parted friends, and seem to have continued such. The kind office of finishing the work, and superintending the publication, was lastly taken up by Dr Morell, who went through the remainder of the book. The preface was in like manner corrected by the Rev. Mr Townley. The family of Hogarth rejoiced when the last sheet of the "Analysis" was printed off; as the frequent disputes he had with his coadjutors, in the progress of the work, did not much harmonize his disposition. This work was translated into German by Mr Mylins, when in England, under the author's inspection; and the translation was printed in London, price five dollars. A new and correct edition was in 1754 proposed for publication at Berlin, by Ch. Fr. Vok, with an explanation of Mr Hogarth's satirical prints, translated from the French; and an Italian translation was published at Leghorn in 1761.

Hogarth had one failing in common with most people who attain wealth and eminence without the aid of liberal education.—He affected to despise every kind of knowledge which he did not possess. Having established his fame with little or no obligation to literature, he either conceived it to be needless, or decried it because it lay out of his reach. His sentiments, in short, resembled those of Jack Cade, who pronounced sentence on the clerk of Chatham because he could write and read. Till, in evil hour, this celebrated artist commenced author, and was obliged to employ the friends already mentioned to correct his "Analysis of Beauty," he did not seem to have discovered that even spelling was a necessary qualification; and yet he had ventured to ridicule the late Mr Rich's deficiency as to this particular, in a note which lies before the Rake whose play is refused while he remains in confinement for debt. Previous to the time of which we are now speaking, one of our artist's common topics of declamation was the uselessness of books to a man of his profession. In "Beer-street," among other volumes consigned by him to the pastry-cook, we find Turn-

Hogarth.

Hogarth. bull "on Ancient Painting;" a treatise which Hogarth should have been able to understand before he ventured to condemn. Garrick himself, however, was not more ductile to flattery. A word in praise of "Sigismunda," his favourite work, might have commanded a proof print, or forced an original sketch out of our artist's hands. The following authenticated story of our artist will also serve to show how much more easy it is to detect ill-placed or hyperbolical adulation respecting others than when applied to ourselves. Hogarth being at dinner with the great Chelfelden and some other company, was told that Mr John Freke, surgeon of St Bartholomew's-hospital, a few evenings before, at Dick's Coffee-house, had asserted that Greene was as eminent in composition as Handel. "That fellow Freke," replied Hogarth, "is always shooting his bolt absurdly one way or another! Handel is a giant in music; Greene only a light Florimel kind of a composer."—"Aye," says our artist's informant; "but at the same time Mr Freke declared you were as good a portrait-painter as Vandyck."—"There he was in the right," adds Hogarth; "and so by G—I am, give me my time, and let me choose my subject!"

A specimen of Hogarth's propensity to merriment, on the most trivial occasions, is observable in one of his cards requesting the company of Dr Arnold King to dine with him at the Mitre. Within a circle, to which a knife and fork are the supporters, the written part is contained. In the centre is drawn a pye, with a mitre on the top of it; and the invitation of our artist concludes with the following sport on the Greek letters—to *Eta Beta Pi*. The rest of the inscription is not very accurately spelt. A quibble by Hogarth is surely as respectable as a conundrum by Swift.

In one of the early exhibitions at Spring-Gardens, a very pleasing small picture by Hogarth made its first appearance. It was painted for the Earl of Charlemont, in whose collection it remains, and was intitled "Picquet, or Virtue in Danger;" and shows us a young lady who during a *tête-à-tête* had just lost all her money to a handsome officer of her own age. He is represented in the act of returning her a handful of bank bills, with the hope of exchanging them for a softer acquisition and more delicate plunder. On the chimney-piece a watch-case and a figure of Time over it, with this motto—NUNC. Hogarth has caught his heroine during this moment of hesitation, this struggle with herself, and has marked her feelings with uncommon success.

In the "Miser's Feast," Mr Hogarth thought proper to pillory Sir Isaac Shard, a gentleman proverbially avaricious. Hearing this, the son of Sir Isaac, the late Isaac Pacatus Shard, Esq; a young man of spirit, just returned from his travels, called at the painter's to see the picture; and, among the rest, asking the Cicerone "whether that odd figure was intended for any particular person;" on his replying "that it was thought to be very like one Sir Isaac Shard," he immediately drew his sword and slashed the canvas. Hogarth appeared instantly in great wrath: to whom Mr Shard calmly justified what he had done, saying "that this was a very unwarrantable licence; that he was the injured party's son, and that he was ready to defend any suit at law;" which, however, was never instituted.

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Hogarth. About 1757, his brother-in-law, Mr Thornhill, resigned the place of king's serjeant-painter in favour of Mr Hogarth.

The last remarkable circumstance of his life was his contest with Mr Churchill. It is said that both met at Westminster-hall; Hogarth to take by his eye a ridiculous likeness of the poet, and Churchill to furnish a description of the painter. But Hogarth's print of the poet was not much esteemed, and the poet's letter to him was but little admired. Some pretend, indeed, to say that it broke the painter's heart; but this we can from good authority say is not true. Indeed the report falls of itself; for we may as well say, that Hogarth's pencil was as efficacious as the poet's pen, since neither long survived the contest.

It may be truly observed of Hogarth, that all his powers of delighting were restrained to his pencil. Having rarely been admitted into polite circles, none of his sharp corners had been rubbed off, so that he continued to the last a gross uncultivated man. The slightest contradiction transported him into rage. To some confidence in himself he was certainly intitled: for, as a comic painter, he could have claimed no honour that would not most readily have been allowed him; but he was at once unprincipled and variable in his political conduct and attachments. He is also said to have beheld the rising eminence and popularity of Sir Joshua Reynolds with a degree of envy; and, if we are not misinformed, frequently spoke with asperity both of him and his performances. Justice, however, obliges us to add, that our artist was liberal, hospitable, and the most punctual of paymasters; so that, in spite of the emoluments his works had procured to him, he left but an inconsiderable fortune to his widow. His plates indeed are such resources to her as may not speedily be exhausted. Some of his domestics had lived many years in his service; a circumstance that always reflects credit on a master. Of most of these he painted strong likenesses on a canvas still in Mrs Hogarth's possession.

Of Hogarth's lesser plates many were destroyed. When he wanted a piece of copper on a sudden, he would take any from which he had already worked off such a number of impressions as he supposed he should sell. He then sent it to be effaced, beat out, or otherwise altered to his present purpose. The plates which remained in his possession were secured to Mrs Hogarth by his will dated, Aug. 12. 1764, chargeable with an annuity of L. 80 to his sister Anne, who survived him. When, on the death of his other sister, she left off the business in which she was engaged, he kindly took her home, and generously supported her, making her at the same time, useful in the disposal of his prints. Want of tenderness and liberality to his relations was not among the failings of Hogarth.

The following character of Hogarth as an artist is given by Mr Gilpin in his *Essay on Prints*. "The works of this master abound in true humour; and satire, which is generally well directed: they are admirable moral lessons, and a fund of entertainment suited to every taste; a circumstance which shows them to be just copies of nature. We may consider them too as valuable repositories of the manners, customs, and dresses of the present age. What a fund of entertainment would a collection of this kind afford, drawn from every period of the history of Britain?—How far

Hogarth. far the works of Hogarth will bear a *critical examination*, may be the subject of a little more enquiry.

"In *design*, Hogarth was seldom at a loss. His invention was fertile, and his judgment accurate. An improper incident is rarely introduced, a proper one rarely omitted. No one could tell a story better, or make it in all its circumstances more intelligible. His genius, however, it must be owned, was suited only to *low* or *familiar* subjects; it never soared above *common* life: to subjects naturally sublime, or which from antiquity or other accidents borrowed dignity, he could not rise. In *composition* we see little in him to admire. In many of his prints the deficiency is so great as plainly to imply a want of all principle; which makes us ready to believe, that when we do meet with a beautiful group, it is the effect of chance. In one of his minor works, the *Idle Prentice*, we seldom see a crowd more beautifully managed than in the last print. If the *sheriff's* officers had not been placed in a line, and had been brought a little lower in the picture, so as to have formed a pyramid with the cart, the composition had been unexceptionable; and yet the first print of this work is such a striking instance of disagreeable composition, that it is amazing how an artist who had any idea of beautiful forms could suffer so unmasterly a performance to leave his hands. Of the *distribution of light* Hogarth had as little knowledge as of *composition*. In some of his pieces we see a good effect, as in the *Execution* just mentioned; in which, if the figures at the right and left corners had been *kept down* a little, the light would have been beautifully distributed on the fore-ground, and a fine secondary light spread over part of the crowd. But at the same time there is so obvious a deficiency in point of effect in most of his prints, that it is very evident he had no principles. Neither was Hogarth a master in *drawing*. Of the muscles and anatomy of the head and hands he had perfect knowledge; but his trunks are often badly moulded, and his limbs ill set on: yet his figures, upon the whole, are inspired with so much life and meaning, that the eye is kept in good-humour in spite of its inclination to find fault. The author of the *Analysis of Beauty*, it might be supposed, would have given us more instances of *grace* than we find in the works of Hogarth; which shows strongly that theory and practice are not always united. Many opportunities his subjects naturally afford of introducing graceful attitudes, and yet we have very few examples of them. With instances of picturesque grace his works abound. Of his *expression*, in which the force of his genius lay, we cannot speak in terms too high. In every mode of it he was truly excellent. The passions he thoroughly understood, and all the effects which they produce in every part of the human frame. He had the happy art also of conveying his ideas with the same precision with which he conceived them. He was excellent too in expressing any humorous oddity which we often see stamped upon the human face. All his heads are cast in the very mould of nature. Hence that endless variety which is displayed thro' his works; and hence it is that the difference arises between *his* heads and the affected caricatures of those masters who have sometimes amused themselves with patching together an assemblage of features from their own ideas. Such are *Spaniolet's*; which, though admirably executed, appear plainly to

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have no archetypes in nature. Hogarth's, on the other hand, are collections of natural curiosities. The *Oxford-heads*, the *Physician's-arms*, and some of his other pieces, are expressly of this humorous kind. They are truly comic, though ill-natured effusions of mirth; more entertaining than *Spaniolet's*, as they are pure nature; but less innocent, as they contain ill-directed ridicule.—But the species of expression in which this master perhaps most excels, is that happy art of catching those peculiarities of art and gesture which the ridiculous part of every profession contract, and which for that reason become characteristic of the whole. His counsellors, his undertakers, his lawyers, his usurers, are all conspicuous at sight. In a word, almost every profession may see in his works that particular species of affectation which they should most endeavour to avoid. The *execution* of this master is well suited to his subjects and manner of treating them. He etches with great spirit, and never gives one unnecessary stroke."

HOGSHEAD, in commerce, a measure of capacity containing 63 gallons.

HOGUE, a town and cape on the north-west point of Normandy in France; near which admiral Rook burnt the French admiral's ship called the *Rising Sun*, with 12 more large men of war, the day after the victory obtained by admiral Russell near Cherbourg in May 1692. W. Long. 2. 0. N. Lat. 49. 50.

HOIST, in sea-language, denotes the perpendicular height of a flag or ensign, as opposed to the fly, which signifies its breadth from the staff to the outer edge.

HOISTING signifies the operation of drawing up any body by the assistance of one or more tackles. Hoisting is never applied to the act of pulling up any body by the help of a single block, except in the exercise of extending the sails by drawing them upwards along the masts or stays, to which it is invariably applied.

HOKE-DAY, *Hock-Day*, or *Hock-Tuesday*, in our ancient customs (*dies Martis, quem quindenam pasche vocant*), the second Tuesday after Easter week; a solemn festival celebrated for many ages in England in memory of the great slaughter of the Danes in the time of king Ethelred, they having been in that reign almost all destroyed in one day in different parts of the kingdom, and that principally by women. This is still kept up in some counties; and the women bear the principal sway in it, stopping all passengers with ropes and chains, and exacting some small matter from them to make merry with. This day was very remarkable in former times, inasmuch as to be used on the same footing with Michaelmas for a general term or time of account. We find leases without date reserving so much rent payable *ad duos anni terminos, scil. ad le hoke-day, & ad festum sancti Michaelis*. In the accounts of Magdalen-college, Oxford, there is yearly an allowance *pro mulieribus hockantibus* of some manors of theirs in Hampshire; where the men hock the women on Mondays, and the women hock them on Tuesdays. The meaning of it is, that on that day the women in merriment stopped the way with ropes, and pulled passengers to them, desiring something to be laid out for pious uses.

HOKE-Day Money, or *Hoke-Tuesday Money*, a tribute anciently paid the landlord, for giving his tenants and

4 G

bondmen

Hoghead
Hoke-day.

Ho kien,
Holbein.

bondmen leave to celebrate hock-day, or hoke-day, in memory of the expulsion of the domineering Danes.

HO-KIEN-FOU, a city of China, and one of the principal in the province of Pe-tcheli. It has two cities of the second, and fifteen of the third, class in its district, but is remarkable for nothing but the neatness of its streets.

HOLBEIN (Hans), a celebrated painter, born at Basle in Switzerland in 1498, learned the rudiments of his art from his father, who was a painter; but soon showed his superior genius. In the town-house of Basle he painted our Saviour's Passion; and in the fish-market of the same city Death's Dance, and a Dance of Peasants, which were extremely admired; and Erasmus was so pleased with them, that he desired him to draw his picture, and was ever after his friend. He staid some years longer at Basle, till his necessities, occasioned by his own extravagance and an increasing family, made him comply with Erasmus's persuasions to go to England. In his journey he staid some days at Strasburg, where it is said he applied to a very great painter for work, who took him in, and ordered him to give a specimen of his skill. On which Holbein finished a piece with great care, and painted a fly on the most eminent part of it; after which he privately withdrew in the absence of his master, and pursued his journey, without saying any thing to any body. When the painter returned home, he was astonished at the beauty and elegance of the drawing; and especially at the fly, which he at first took for a real one, and endeavoured to remove it with his hand. He now sent all over the city for his journeyman; but after many inquiries, discovered that he had been thus deceived by the famous Holbein.—Holbein having in a manner begged his way to England, presented a letter of recommendation from Erasmus to Sir Thomas More, and also showed him Erasmus's picture. Sir Thomas, who was then lord-chancellor, received him with all the joy imaginable, and kept him in his house between two and three years; in which time he drew Sir Thomas's picture, and those of many of his relations and friends. Holbein one day happening to mention a nobleman who had some years before invited him to England, Sir Thomas was very solicitous to know who it was. Holbein said that he had forgot his title, but remembered his face so well, that he believed he could draw his likeness; which he did so perfectly, that the nobleman it is said was immediately known by it. The chancellor having now adorned his apartments with the productions of this great painter, resolved to introduce him to Henry VIII. For this purpose, he invited that prince to an entertainment; having, before he came, hung up all Holbein's pieces in the great hall, in the best order, and placed in the best light. The king, on his first entrance into this room, was so charmed with the sight, that he asked whether such an artist was now alive, and to be had for money? Upon this, Sir Thomas presented Holbein to his majesty; who immediately took him into his service, and brought him into great esteem with the nobility and gentry, by which means he drew a vast number of portraits. But while he was here, there happened an affair which might have proved fatal to him, had he not been protected by the king. On the report of this painter's character, a lord of the first quality came to see him

when he was drawing a figure after the life. Holbein sent to desire his lordship to defer the honour of his visit to another day; which the nobleman taking for an affront, broke open the door, and very rudely went up stairs. Holbein hearing a noise, came out of his chamber; and meeting the lord at his door, fell into a violent passion, and pushed him backwards from the top of the stairs to the bottom. However, immediately reflecting on what he had done, he escaped from the tumult he had raised, and made the best of his way to the king. The nobleman, much hurt, though not so much as he pretended, was there soon after him; and upon opening his grievance, the king ordered Holbein to ask his pardon. But this only irritated the nobleman the more, who would not be satisfied with less than his life; upon which the king sternly replied, "My lord, you have not now to do with Holbein, but with me: whatever punishment you may contrive by way of revenge against him, shall certainly be inflicted on yourself. Remember, pray, my lord, that I can whenever I please make seven lords of seven ploughmen, but I cannot make one Holbein of even seven lords." Holbein died of the plague at his lodgings at Whitehall in 1554. "It is amazing (says De Piles), that a man born in Switzerland, and who had never been in Italy, should have so good a *gusto*, and so fine a genius for painting." He painted alike in every manner; in fresco, in water-colours, in oil, and in miniature. His genius was sufficiently shown in the historical style, by two celebrated compositions, which he painted in the hall of the Stillyard company. He was also eminent for a rich vein of invention, which he showed in a multitude of designs which he drew for engravers, statuaries, jewellers, &c. and he had this singularity, that he painted with his left hand.

HOLCUS, INDIAN MILLET OR CORN: A genus of the monœcia order, belonging to the polygamia class of plants; and in the natural method ranking under the 4th order, *Gramina*. The calyx of the hermaphrodite is an unisporous or bisporous glume; the corolla is a glume with an awn; there are three stamina, two styles, and one seed. The male calyx is a bivalved glume; there is no corolla, but three stamina.

Species. Of this genus there are 13 species, two of which are natives of Britain. The most remarkable of these is the lanatus, or creeping soft-grass of Hudson; for the description and properties of which see AGRICULTURE, n° 59. The most remarkable of the foreign species is the sorghum, or Guinea-corn. The stalks are large, compact, and full eight feet high. In Senegal the fields are entirely covered with it. The negroes, who call it *guiannot*, cover the ears when ripe with its own leaves to shelter it from the sparrows, which are very mischievous in that country. The grain made into bread, or otherwise used, is esteemed very wholesome. With this the slaves in the West Indies are generally fed, each being allowed from a pint to a quart every day. The juice of the stalks is so agreeably luscious, that, if prepared as the sugar-canes, they would afford an excellent sugar. The negroes on the coast of Guinea make of two kinds of millet a thick-grained pap called *couscous*, which is their common food.

HOLD, the whole interior cavity or belly of a ship, or all that part of her inside which is comprehended

Holbein
||
Hold.

Plate
CCXXXV.

Holder hended between the floor and the lower-deck throughout her whole length.—This capacious apartment usually contains the ballast, provisions, and stores of a ship of war, and the principal part of the cargo in a merchantman. The disposition of these articles with regard to each other, naturally falls under consideration in the article *STOWAGE*; it suffices in this place to say, that the places where the ballast, water, provisions, and liquors are stowed, are known by the general name of the *hold*. The several store-rooms are separated from each other by *bulk-heads*, and are denominated according to the articles which they contain, the *sail-room*, the *bread-room*, the *fish-room*, the *spirit-room*, &c.

HOLDER (William), a learned and philosophical Englishman, was born in Nottinghamshire, educated in Pembroke-hall Cambridge, and in 1642 became rector of Blechingdon of Oxford. In 1660 he proceeded D. D. was afterwards canon of Ely, fellow of the Royal Society, canon of St Paul's, sub-dean of the royal chapel, and sub-almoner to his majesty. He was a very accomplished person, and withal a great virtuoso: and he wonderfully distinguished himself, by making a young gentleman of distinction who was born deaf and dumb to speak. This gentleman's name was Alexander Popham, son of colonel Edward Popham, who was some time an admiral in the service of the long parliament. The cure was performed by him in his house at Blechingdon in 1659; but Popham losing what he had been taught by Holder after he was called home to his friends, was sent to Dr Wallis, who brought him to his speech again. Holder published a book, intitled "the Elements of Speech; an essay of inquiry into the natural Production of Letters: with an appendix concerning persons that are deaf and dumb, 1669," 8vo. In the appendix he relates how soon, and by what methods, he brought Popham to speak. In 1678, he published in 4to "a Supplement to the Philosophical Transactions of July 1670, with some reflections on Dr Wallis's letter there inserted." This was written to claim the glory of having taught Popham to speak, which Wallis in the said letter had claimed to himself; upon which the Doctor soon after published "a Defence of the Royal Society, and the Philosophical Transactions, particularly those of July 1670, in answer to the Cavils of Dr William Holder, 1678," 4to. Holder was skilled in the theory and practice of music, and wrote "a Treatise of the natural Grounds and Principles of Harmony, 1694," 8vo. He wrote also "a Discourse concerning Time, with Application of the natural Day, lunar Month, and solar Year, &c. 1694," 8vo. He died at Amen Corner in London, January 24. 1696-7, and was buried in St Paul's.

HOLDERNESS, a peninsula in the east-riding of Yorkshire, having the German sea on the east, and the Humber on the south. It had the title of an earldom, now extinct.

HOLDSWORTH (Edward), a very polite and elegant scholar, was born about 1688, and trained at Winchester school. He was thence elected demy of Magdalen college, Oxford, in July 1705; took the degree of M. A. in April 1711; became a college-tutor, and had many pupils. In 1715, when he was to be chosen

into a fellowship, he resigned his demyship and left the college, because unwilling to swear allegiance to the new government. The remainder of his life was spent in travelling with young noblemen and gentlemen as tutor: in 1741 and 1744 he was at Rome in this capacity. He died of a fever at Lord Digby's house at Colehill in Warwickshire, December 30. 1747. He was the author of the "Muscipula," a poem, esteemed a master-piece in its kind, and of which there is a good English translation by Dr John Hoadly, in vol. 5. of Doddsley's Miscellanies. He was the author also of a dissertation, intitled "Pharsalia and Philippi; or the two Philippi in Virgil's Georgics attempted to be explained and reconciled to History, 1741," 4to: and of "Remarks and Dissertations on Virgil; with some other classical Observations, published with several notes and additional remarks by Mr Spence, 1768," 4to. Mr Spence speaks of him in Polymetis, as one who understood Virgil in a more masterly manner than any person he ever knew.

HOLERACEÆ, (from *holus*, "pot-herbs"); the name of the 12th order in Linnæus's fragments of a natural method, consisting of plants which are used for the table, and enter into the economy of domestic affairs. See *BOTANY*, p. 459.

HOLIBUT, in ichthyology. See *PLEURONECTES*.

HOLIDAY (Dr Barten), a learned divine and poet, was the son of a taylor in Oxford, and born there about the year 1593. He studied at Christchurch college, and in 1615 took orders. He was before admired for his skill in poetry and oratory; and now distinguishing himself by his eloquence and popularity as a preacher, he had two benefices conferred on him in the diocese of Oxford. In 1618, he went as chaplain to Sir Francis Stewart, when he accompanied Count Gondamore to Spain. Afterwards he became chaplain to the king, and before the year 1626 was promoted to the archdeaconry of Oxford. In 1642 he was made doctor of divinity at Oxford; near which place he sheltered himself during the time of the rebellion; but after the restoration returned to his archdeaconry, where he died in 1661. His works are, 1. Twenty sermons, published at different times. 2. *Philosophia politico-barbara specimen*, quarto. 3. Survey of the world, a poem in ten books, octavo. 4. A translation of the satires of Juvenal and Persius. 5. *Technogamia*, or the marriage of the arts, a comedy.

HOLINESS, or **SANCTITY**; a quality which constitutes or denominates a person or thing *holy*; i. e. pure, or exempt from sin. The word is also used in respect of persons and things that are sacred, i. e. set apart to the service of God, and the uses of religion.

HOLINESS, is also a title or quality attributed to the pope; as that of *majesty* is to kings. Even kings, when writing to the pope, address him under the venerable appellation of *Your Holiness*, or *Holy Father*; in Latin, *Sanctissime* or *Beatissime Pater*. Anciently the same title was given to all bishops. The Greek emperors also were addressed under the title of *Holiness*, in regard of their being anointed with holy oil at their coronation. De Cange adds, that some of the kings of England have had the same attribute; and

Holinshed that the orientals have frequently refused it to the pope.

Holland.

HOLINSHED (Raphael), an English historian famous for the *Chronicles* under his name, was descended from a family that lived at Bosely in Cheshire; but neither the time of his birth, nor scarcely any circumstances of his life, are known. However, he appears to have been a man of considerable learning, and to have had a genius particularly adapted for history. His *Chronicles of England, Scotland, and Ireland*, were first published at London in 1570, in 2 vols folio; and then in 1587, in 3 vols. In this second edition several sheets in the 2d and 3d vols were castrated for containing some passages disagreeable to queen Elizabeth and her ministers; but the castrations have since been printed apart. Holinshed was not the sole compiler of this work, being assisted in it by several other hands. The time of his death is unknown; but from his will, which is prefixed to Hearne's edition of *Cambden's Annals*, it appears to have happened between 1578 and 1582.

HOLLAND (Philemond), M. D. commonly called the Translator general of his age, was educated in the university of Cambridge. He was for many years a schoolmaster at Coventry, where he also practised physic. He translated Livy, Pliny's Natural History, Plutarch's Morals, Suetonius, Ammianus Marcellinus, Xenophon's Cyropædia, and Cambden's Britannia, into English; and the geographical part of Speed's Theatre of Great Britain into Latin. The Britannia, to which he made many useful additions, was the most valuable of his works. It is surprising, that a man of two professions could find time to translate so much; but it appears from the date of the Cyropædia, that he continued to translate till he was 80 years of age. He died in 1636, aged 85. He made the following epigram upon writing a large folio with a single pen:

With one sole pen I wrote this book,
Made of a grey goose quill;
A pen it was when it I took,
And a pen I leave it still.

HOLLAND, the largest of the seven United Provinces, divided into South and North Holland, the latter of which is also called *West Friesland*, is bounded on the west by the German ocean, or north sea; to the east by the Zuyder-see, the province of Utrecht, and part of Gelderland; to the south by Dutch Brabant and Zealand; and to the north by the Zuyder-see. Its greatest extent from north to south, including the island of Texel, is about 90 English miles; but from east to west its extent varies from 40 to 25. To defend it against the sea, dykes have been erected at an immense expence, and innumerable canals cut to drain it, as being naturally very low and marshy. Some parts of the province are very fruitful in corn; but the greater parts consist of rich pastures, wherein are kept large herds of kine, which supply them with incredible quantities of butter and cheese. Of the latter, that of Edam, in North Holland, is highly esteemed. The many rivers and canals that intersect the province are of great advantage to its commerce, but contribute to render the air foggy and unwholesome. There is a communication by water betwixt almost every town and

village. Towards the middle also of the province are great numbers of turf-pits. It is so populous, that the number of the inhabitants is computed at 1,200,000. In point of cleanliness no country surpasses, and few come up to it, especially in North Holland, and that even in the villages. From the counts of Holland this province devolved, in 1436, to the dukes of Burgundy, and from them to the house of Austria, along with the other provinces. The States of Holland and West Friesland are composed of the nobility and deputies of the towns; of the latter there are 18 that send deputies to the assembly of the states, which is held at the Hague. The grand pensionary is a person of great dignity and weight in this assembly, and his office requires extraordinary abilities. There are also two councils composed of deputies, one for South, and another for North Holland, who have the cognizance of the revenue and military affairs. The whole province sends one deputy from among the noblesse to the states-general, who takes precedence of all others, together with three or four more. There are two supreme courts of judicature for Holland and Zealand; viz. the great council of Holland and Zealand, and the hof or court of Holland. To these appeals lie from the towns; but the causes of noblemen come before them in the first instance. With respect to the ecclesiastical government, there is a synod held annually both in South and North Holland, of which the former contains eleven classes, and the latter six; and the ministers of both together amount to 331. In the whole province are 37 towns, 8 boroughs, and 400 villages.—For the history, see UNITED PROVINCES.

HOLLAND, one of the divisions of Lincolnshire in England. It so much resembles the province of that name upon the continent, in most respects, being low and marshy, with the sea on one side, and canals running through it, that it must either have had its name from thence, or on the same account. On the east it has what the ancient geographers call *Æstuarium Metaris*, now the Washes, which are overflowed at high water, and part of Cambridgeshire on the south. The lower part of it is full of bogs and marshes, and has huge banks to defend it against the sea and land floods. The ground is so soft, that horses are worked unshod; and it produces plenty of grass, but little corn. The whole tract seems to have been gained from the sea; and is divided into Upper and Lower, the latter of which was unpassable; but since the fens have been drained, the lands are grown more solid, and the inhabitants sow cole-seed upon them to their great profit. Though there are no stones to be found in or upon the ground, yet most of the churches are of stone. They have no fresh water but from the clouds, which is preserved in pits: but if these are deep, it soon turns brackish; and if they are shallow, they soon become dry.

New HOLLAND, the largest island in the world, reaching from 10 to 44 deg. S. Lat. and between 110 and 154 of E. long. east from London. It received its name from having been chiefly explored by Dutch navigators. The land first discovered in those parts was called *Eendragt* (Concord) Land, from the name of the ship on board which the discovery was made, in 1616; 24 deg. and 25 deg. south. In 1618, another part of this coast, nearly in 15 deg. south, was discovered

Holland,
New Hol-
land.

New Hol-
land.

discovered by Zeachen, who gave it the name of *Arnhem* and *Diemen*; though a different part from what afterwards received the name of *Diemen's Land* from *Tasman*, which is the southern extremity, in latitude 43 deg. In 1619, Jan Van Edels gave his name to a southern part of New Holland. Another part, situated between 30 and 33 deg. received the name of *Leuwen*. Peter Van Nultz gave his name, in 1627, to a coast which communicates to *Leuwen's Land* towards the westward; and a part of the western coast, near the tropic of *Capricorn*, bore the name of *De Wits*. In 1628, Peter Carpenter, a Dutchman, discovered the great gulph of *Carpentaria*, between 10 and 20 deg. south. In 1687, *Dampier*, an Englishman, sailed from *Timor*, and coasted the western parts of New-Holland. In 1699, he left England, with a design to explore this country, as the Dutch suppressed whatever discoveries had been made by them. He sailed along the western coast of it, from 28 to 15 deg. He saw the land of *Endraght* and of *De Wit*. He then returned to *Timor*: from whence he went out again; examined the isles of *Papua*; coasted *New-Guinea*; discovered the passage that bears his name; called a great island which forms this passage or strait on the east side, *New Britain*; and sailed back to *Timor* along *New-Guinea*. This is the same *Dampier* who, between 1683 and 1691, sailed round the world by changing his ships. Notwithstanding the attempts of all these navigators, however, the eastern part of this vast tract was totally unknown till *Captain Cook* made his late voyages; and by fully exploring that part of the coast, gave his country an undoubted title to the possession of it; which accordingly has since been taken possession of under the name of *New South Wales*.

Whether
the name
of continent
belongs to
New Hol-
land.

Some have disputed whether the title of *island* can be properly applied to a country of such vast extent, or whether it ought not rather to be denominated a *continent*; while others have replied, that though the

word *island*, and others similar to it, do indeed signify a tract of land surrounded by sea, yet in the usual acceptance it means only a land of moderate extent surrounded in this manner. Were it otherwise, we might call the whole world an island, as it is every where surrounded by the sea; and in fact, *Dionysius Perigetes* applies this term to it, with the addition of the word *immense*, to distinguish it from other islands. The best rule, according to Mr *Stockdale*, for determining when a country ought to lose the name of *island* and begin to be called a *continent*, is when it begins to lose the advantages of an insular situation. The first and principal of these, is the being capable of an union under one government, and thence deriving a security from all external attacks excepting those by sea; but in countries of great extent, this is not only difficult, but impossible. If we consider, therefore, *New Holland* as extending about a thousand miles every way, we shall find that its claim to be called a continent is undoubted; its length from east to west being about 2400 English miles, and 2300 from north to south.

This coast was first explored by *Captain Cook* in the year 1770; but his stay was too short to examine the nature of the country with the accuracy which he would otherwise have done had he continued longer in it. In general, it was found rather barren than otherwise. Many brooks and springs were found along the eastern coast, but no river of any consequence. They found only two kinds of trees useful as timber, the pine, and another which produces a sort of gum. They found three kinds of palm-trees; but few esculent plants, though there are abundance of such as might gratify the curiosity of the botanist. A great variety of birds were met with, which have since been particularly described; but the number of quadrupeds bears but a very small proportion to that of the other animals. The most remarkable insects seen at this time were the green ants (A), who build their nests upon trees in a very singular manner.

New Hol-
land.

Captain
Cook's ac-
count of
the coun-
try.

This

(A) These little animals form their habitations, by bending down the leaves of trees, and gluing the ends of them together so as to form a purse. Though these leaves are as broad as a man's hand, they perform this feat by main strength, thousands of them being employed in holding down the leaves, while multitudes of others apply the glutinous matter. *Captain Cook's* people ascertained themselves that this was the case, by sometimes disturbing them at their work; in which case the leaf always sprung up with an elasticity which they could not have supposed that such minute insects were capable of overcoming. For this curiosity, however, they smarted pretty severely; for thousands of these little enemies instantly threw themselves upon the aggressors, and revenged themselves by their bites or stings for the interruption they had met with. These were little less painful at first than the sting of a bee; but the pain did not last above a minute. Another species of ants burrow themselves in the root of a plant which grows on the bark of trees like the *mistletoe*, and which is commonly as big as a large turnip. When this is cut, it appears intersected with innumerable winding passages all filled with these animals; notwithstanding which, the vegetation of the plant suffers no injury. These do not give pain by their stings, but produce an intolerable itching by crawling about on the skin. They are about the size of the small red ant in this country. Another sort, which do not molest in any manner, resemble the white ants (see *TERMES*) of the East Indies. They construct nests three or four times as big as a man's head on the branches of trees; the outsides being composed of some vegetable matter along with a glutinous substance. On breaking the outer crusts of these hives, innumerable cells appear swarming with inhabitants, in a great variety of winding directions, all communicating with each other, and with several other nests upon the same tree. They have also another house built on the ground, generally at the root of a tree; formed like an irregularly sided cone; sometimes more than six feet high, and nearly as much in diameter. The outside of these is of well-tempered clay about two inches thick; and within are the cells, which have no opening outward. One of these is their summer and the other their winter dwelling, communicating with each other by a large avenue leading to the ground, and by a subterraneous passage. The ground structures are proof against wet, which those on the branches are not.

New Hol-
land.

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Settlement
of a British
colony in
New Hol-
land.

This country has now become an object of more consequence than formerly, by reason of the establishment of a British colony in it; where the criminals condemned to be transported are sent to pass their time of servitude. Before this plan was resolved on by government, another had been discussed, *viz.* that of employing these criminals in workhouses; and Judge Blackstone, with Mr Eden and Mr Howard, had considered of the best method of putting it in execution: but though this plan had been approved by parliament as early as 1779, some difficulties always occurred, which prevented its going forward; and at length, on the 6th of December 1786, orders were issued by his majesty in council for making a settlement on New Holland, establishing a court of judicature in the colony, and other regulations necessary on the occasion. The whole received the complete sanction of legislature in the beginning of the year 1787. The squadron appointed for putting the design in execution began to assemble at the Mother Bank, the place of rendezvous, in the Isle of Wight, on the 16th of March 1787. It consisted of the Sirius frigate Captain John Hunter, the Supply armed tender Lieutenant H. L. Ball; three store-ships, the Golden grove, Fishburn, and Borrowdale, for carrying provisions and stores for two years; and lastly, six transports, the Scarborough and Lady Penrhyn from Portsmouth, the Friendship and Charlotte from Plymouth, and the Prince of Wales and Alexander from Woolwich. These were to carry the convicts, with a detachment of marines in each proportioned to the nature of the service; the largest where resistance was most expected, *viz.* in those which carried the greatest number of male convicts. On the arrival of Governor Phillip at the station, he hoisted his flag on board the Sirius as commodore of the squadron; and the embarkation being completed, he gave the signal to weigh anchor on the 13th of May at day-break. The number of convicts was 778, of whom 558 were men. They touched at the island of Teneriffe on the 3d of June, without meeting with any bad accident. Here they staid a week, in order to procure such refreshments as were necessary for preventing the disorders mostly to be dreaded in such a long and perilous voyage. In this they succeeded to their wish; and were about to depart on the 9th of June, when it was discovered that one of the convicts had made his escape, having found means to cut away a boat and make off with it. He offered himself as a sailor aboard a Dutch vessel at that time in the harbour, but was refused; on which he attempted to conceal himself in a cove. In this he would probably have succeeded, had it not been for the boat which he could not conceal; so that he was soon discovered and brought back to the ship, where, however, he obtained his pardon from the governor.

On the 10th of June the fleet set sail from Santa Cruz in the island of Teneriffe, and on the 18th came in sight of the Cape Verd islands, where they steered for St Jago: but the want of a favourable wind and other circumstances prevented their getting in; so that as Governor Phillip did not chuse to waste time, they did not touch land till they came to Rio Janeiro on the coast of Brasil. It may seem surprising, that a voyage to the eastward, which of itself may be accounted of sufficient length, should thus be wilfully made so much

longer, by sailing twice across the Atlantic. The calms, however, so frequent on the coast of Africa, seem of themselves to be a sufficient inducement for navigators to preserve a westerly course; and even the islands at which it is so necessary to touch, are not far distant from the American coast. The returning tracks of Captain Cook's three voyages are all within a little space of the 45th degree of west longitude, which is even 10 degrees farther west than Cape St Roque; and that course appears to have been taken voluntarily, without any extraordinary inducement.

During the time of their stay at Santa Cruz the weather had been very moderate; the barometer about 30 inches, and the thermometer never above 72; as they approached the Cape Verd islands it rose to 82, and did not exceed 82° 51' all the way from thence to Rio Janeiro. Here they met with a very favourable reception, contrary to that which Captain Cook experienced on a similar occasion. Provisions were so cheap, that though the allowance of meat was fixed by the governor at 20 ounces per day, the men were victualled completely at 3^d each, including rice, vegetables, and every other necessary. Wine was not at this time to be had except at an advanced price: but rum was laid in, and such seeds and plants procured as were thought most likely to flourish in New South Wales; particularly coffee, indigo, cotton, and the cochineal fig. An hundred sacks of cassada were likewise purchased as a substitute for bread, if it should happen to be scarce. By the kindness of the viceroy also, some deficiencies in the military stores were made up from the royal arsenal, and every assistance given which the place could afford. They arrived here on the 5th of August 1787, and set sail on the 4th of September, receiving as the last compliment from the governor a salute of 21 guns.

From Rio de Janeiro the fleet had a fine run to Table Bay, in the southern extremity of Africa, which they accomplished in 39 days; where they took in the refreshments meant to supply them during the remainder of the voyage. Here they arrived on the 13th of October; and having supplied themselves with a great number of live stock, they set sail on the 12th of November, but were long impeded by contrary winds from the southeast. On the 25th they were only 80 leagues distant from the Cape, when Governor Phillip left the Sirius and went aboard the Supply tender; in hopes, by leaving the convoy, to gain sufficient time for examining the country round Botany Bay, that the most proper situation for the new colony might be chosen before the transports should arrive. They now met with favourable winds, blowing generally in very strong gales from the northwest, west, and southwest. The wind shifted only once to the east, but did not continue in that direction above a few hours. On the 3d of January 1788 the Supply came within sight of New South Wales; but the winds then became variable, and a current, which at times set very strongly to the southward, impeded her course so much, that it was not till the 18th of the month that she arrived at Botany Bay.

Governor Phillip no sooner landed than he had an opportunity of conversing with the natives, who were assembled on shore. As it was the intention of this gentleman to conciliate if possible their friendship, he used every method at this first interview to inspire them with a favourable idea of the Europeans. For this purpose

New Hol-
land.

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They ar-
rive at
New Hol-
land.

⁵
Interview
with the
natives.

New Hol-
land.

pose he presented them with beads and other trifling ornaments, which they seemed pleased to wear, though Captain Cook found them very indifferent about any kind of finery he could furnish them with. They seemed, according to the account of that celebrated navigator, to be so attached to their own ornaments, that they made no account of any thing else. They received indeed such things as were given them, but made no offer to return any thing in exchange; nor could they be made to comprehend that any thing of the kind was wanted. Many of the presents which they had received were found afterwards thrown away in the woods.

6

Inconveni-
ence of Bo-
tany Bay
for a settle-
ment.

Governor Phillip having parted with his new acquaintance in a friendly manner, next set about an examination of the country about Botany Bay, which had been strongly recommended by Captain Cook as the most eligible place for a settlement. He found, however, that the bay itself was very inconvenient for shipping; being exposed to the easterly winds, and so shallow that ships even of a moderate burden could not get far enough within land to be sheltered from the fury of the ocean. Neither did the land about any part of this bay appear an eligible situation for a colony; being in some places entirely swampy, in others quite destitute of water. Point Sutherland seemed to afford the situation most free from objections, but the ships could not approach it; and even here the ground seemed to be universally damp and spongy: so that, on the whole, finding no place within the compass of the bay proper for the new settlement, they found themselves obliged to remove somewhere else.

The rest of the fleet arrived in two days after the Supply; and that no time might be lost, Governor Phillip ordered the ground about Point Sutherland to be cleared, and preparations to be made for landing, while he went with several officers in three boats to examine Port Jackson, which was only three leagues distant. Here they had the satisfaction to find one of the finest harbours in the world, where 1000 sail of the line might ride in perfect safety. On examining the different coves, one was preferred which had a fine run of spring water, and where ships could anchor so close to the shore, that at a very small expence quays might be constructed for loading and unloading the largest vessels. This was named by the governor *Sydney Cove*, in honour of Lord Sydney, and the country around it destined for the place of settlement. It is about half a mile long, and a quarter of a mile broad at the entrance. On the governor's return to Botany Bay, the reports made to him concerning the adjacent country were so exceedingly unfavourable, that orders were immediately given for the removal of the fleet to Port Jackson. On the morning of the 25th, therefore, the governor sailed from Botany Bay, and was soon followed by the whole fleet. In the mean time, they were surprised by the appearance of two other European vessels, which had been first seen off Botany Bay on the 24th. These were found to be two French ships, named the *Astrolabe* and *Bouffola*, which had left France on a voyage of discovery under the command of M. la Peyrouse, in the year 1785. They had touched at the island of Santa Catharina on the coast of Brazil, and from thence gone by the extremity of South America into the Pacific Ocean, where they had

run along by the coasts of Chili and California; after which they had visited Easter Island, Nootka Sound, Cook's river, Kamtschatka, Manilla, the Isles des Navigateurs, Sandwich, and the Friendly Isles. They had also attempted to land on Norfolk Island, but found it impossible on account of the surf. During the whole voyage none were lost by sickness; but two boats crews had unfortunately perished in a surf on the northwest coast of America; and at Masana, one of the *Isles des Navigateurs*, M. L'Angle, captain of the *Astrolabe*, with 12 of his people, officers and men, were murdered by the savages. This was the more surprising, as there had been an uninterrupted friendship with them from the time the French touched at the island, till that unfortunate moment M. L'Angle had gone ashore with two long boats for the purpose of filling some water-casks. His party amounted to 40 men; and the natives, from whom the French had already received abundance of refreshments, did not show any signs of an hostile disposition: But from whatever motive their resentment was excited, the men had no sooner begun to get out the boats, than the savages made a most furious and unexpected assault with stones. In this encounter M. L'Angle himself, with the people above mentioned, fell a sacrifice to the treachery of these barbarians. The remainder of the party escaped with great difficulty; the ships having at that time passed a point of land which intercepted their view of the affray.

The convicts and others destined to remain in New South Wales being landed, no time was lost in beginning to clear ground for an encampment, store-houses, &c. The work, however, went on but slowly, partly owing to the natural difficulties they had to encounter, and partly owing to the habitual indolence of the convicts, which indeed was naturally to be expected considering their former way of life. Nevertheless, by the end of the first week of February, the plan of an encampment was formed, and places were marked out for different purposes, so that the colony already began to assume some appearance of order and regularity. The materials and frame-work of a slight temporary habitation for the governor had been brought out from England ready formed, which were landed and put together with as much expedition as circumstances would allow. Hospital tents were also erected; and the sickness which soon took place showed the propriety of so doing. In the passage from the Cape there had been but little sickness, and few of the convicts had died; but a little time after they landed a dysentery began to prevail, which proved fatal in several instances, and the scurvy began to rage with great violence, so that the hospital tents were soon filled with patients. The disorder proved the more virulent as fresh provisions could but rarely be obtained; nor were esculent vegetables often obtained in such plenty as could produce any material alleviation of the complaint: the only remedy for the dysentery was found to be a kind of red gum, produced in plenty by the trees growing upon this coast. The yellow gum has the same properties, though in an inferior degree.

In the beginning of February, a most violent storm of thunder and lightning destroyed five of the sheep which had a shed erected for them under a tree, which proved a prelude to other misfortunes among the cattle. The encampment, however, was carried on with great

alacrity;

New Hol-
land.7
A settle-
ment form-
ed at Port
Jackson.8
Visited by
two French
ships.

New Hol-
land.9
Regular
form of
govern-
ment esta-
blished.

alacrity; the foundations of the store-houses were laid, and every thing began to wear a promising appearance. On the 7th of the month a regular form of government was established in the colony, with all the solemnity which could possibly be given: the governor made a proper speech to the convicts, reminding them of the situation in which they stood; and that now, if they continued their former practices, it was impossible they could hope for mercy if detected; neither could they expect to escape detection in so small a society. Offenders, therefore, he said, would certainly be punished with the utmost rigour; though such as behaved themselves in a proper manner, might always depend upon encouragement. He particularly noticed the illegal intercourse betwixt the sexes, as a practice which encouraged profligacy in every respect; for which reason he recommended marriage: and this exhortation seemed not to be altogether in vain, as 14 marriages were celebrated that very week in consequence.

Heavy rains took place during the remainder of this month, which showed the necessity of going on with the work as soon as possible. The want of carpenters, however, prevented this from being done so expeditiously as could have been wished. Only 16 of these could be hired from all the ships; and no more than 12 of the convicts were of this profession, of whom several were sick; so that the party were by far too few for the work they had to perform. An hundred convicts were added as labourers; but with every effort it was found impossible to complete either the barracks or the huts for the officers as soon as could be wished.

10
Norfolk
Island set-
tled.† See Nor-
folk Island.

On the 14th of February a small party was sent out to settle on Norfolk Island, who have since established a colony there which promises to be of considerable utility†. It was soon found, however, absolutely necessary to make examples of some of the convicts at Port Jackson. Towards the end of February it was found necessary to convene a criminal court, in which six of the convicts received sentence of death. One who was the head of the gang was executed the same day; one of the rest was pardoned; the other four were reprieved, and afterwards exiled to a small island within the bay, where they were kept on bread and water. They had frequently robbed both the stores and other convicts. The fellow who was executed, and two others, had been detected in stealing the very day on which they received a week's provision; and at the same time that their allowance was the same as that of the soldiers, spirituous liquors only excepted.

11
Broken
Bay exa-
mined.

In the beginning of March the governor went out with a small party to examine Broken Bay, lying about eight miles to the northward of Port Jackson. This was found very extensive, with many openings. One of the latter ended in several small branches, and a large lagoon, which they could not at that time examine. Most of the land about the upper part of this branch was low and full of swamps, with great numbers of pelicans, and other aquatic birds. Among the rest they met with an uncommon bird called at that time the *Hooded Gull*, but afterwards found to be the species named by Mr Latham the *Caspian Tern*.

From this northwest branch they proceeded across the bay to the southwest branch, which is also very extensive, with a second opening to the westward capable of affording shelter to almost any number of

N° 156.

ships, with depth of water for vessels of almost any burden. The land was found much higher here than at Port Jackson, more rocky, and equally covered with timber. Large trees were seen growing even on the summits of the mountains, which appeared totally inaccessible to the human species. Round the headland which forms the southern entrance into the bay is a third branch, which governor Phillip thought the finest piece of water he had ever seen; which for that reason he honoured with the name of *Pit-water*. This branch, as well as the former, is sufficient to contain all the navy of Great Britain; but the latter has a bar at the entrance of only 18 feet at low water. Within are from 7 to 15 fathoms. The land here is more level than on the southwest branch, and some situations are proper for cultivation. The governor determined to have returned by land, in order to explore the country betwixt Port Jackson and Broken Bay, but the continual rains prevented him.

On the 10th of March the French ships departed, little intercourse having passed between them and the English during the time of their stay. While the former remained in Botany Bay, Father la Receveur, who had come out in the *Astrolabe* as a naturalist, died of the wounds he had received in the battle with the inhabitants of Masuna. A kind of monument was erected to his memory, with the following inscription:

12
Death of la
Receveur.

Hic jacet LE RECEVEUR
E. F. F. minimis Galliae sacerdos,
Physicus in circumnavigatione
Mundi
Duce DE LA PEYROUSE,
Ob. 17th, Feb. 1788.

This monument, however, was soon after destroyed by the natives; on which Governor Phillip caused the inscription to be engraved on copper and nailed to a neighbouring tree. M. de la Peyrouse had paid a similar tribute to the memory of Captain Clerke at Kamtschatka.

On the 15th of April, the governor, attended by several officers and a small party of marines, set out on an expedition into the interior parts of the country. Their first landing was at the head of a small cove named *Shell-cove*, near the entrance of the harbour on the north side. Proceeding in this direction, they arrived with great labour at a large lake surrounded on all sides with bog and marshy ground to a considerable extent, and in which they frequently plunged up to the waist. Here they observed that bird so rare in other parts of the world, viz. a black swan. On being fired at, it rose, and showed that its wings were edged with white, the bill being tinged red. They spent three days in a very laborious manner in passing the marshes and swamps which lie in the neighbourhood of the harbour: and here they had an opportunity of observing, that all the small streams which descend into Port Jackson proceed from swamps, occasioned by the stagnation of the water in the low grounds as it rises from the springs. On leaving these low grounds, they found them succeeded by a rocky and barren country; the hills covered with various flowering shrubs, though frequently inaccessible by reason of various natural obstacles. At about 15 miles distance from the sea, the governor had a fine view of the internal parts of the country, which were mountainous.

To

New Hol-
land.

To the most northerly chain of these he gave the name of *Carmarthen*, and to the most southerly that of *Lansdown, Hills*; and to one which lay between these he gave the name of *Richmond Hill*. It was conjectured, that a large river must rise from these mountains; but there was now a necessity for returning. On the 22d, however, another expedition was undertaken. Governor Phillip with his party landed near the head of the harbour. Here they found a good country; but in a short time arrived at a close thicket through which they found it impossible to make their way, so that they were obliged to return. Next day, by keeping close to the banks of a small creek, they made a shift to pass that obstacle, and continued their course for three days to the westward. The country was now extremely fine, either entirely level or rising in small hills, the soil excellent, but stony in a few places. The trees grew at the distance of from 20 to 40 feet from each other, in general totally destitute of underwood, which was confined to the barren and stony spots. On the 5th day they saw for the first time in this second expedition *Carmarthen* and *Lansdown hills*; but the country all round was so beautiful, that Governor Phillip gave it the name of *Belle vue*. They were still apparently 30 miles from the mountains which they had intended to reach; but not having been able to carry more than six days provisions along with them, they found it necessary to return; and even with this small stock the officers as well as men were obliged to carry heavy loads. During all this time they had not proceeded farther in a direct line than 30 miles, so great were the obstructions they had met with from deep ravines, &c. Their return, however, was effected with much greater ease, having cleared a track, and marked trees all the way as they went along to direct them in their journey back. The country explored at this time appeared so fine, that Governor Phillip determined to form a settlement there as soon as a sufficient number could be spared from those works which were immediately necessary. On his return he had the mortification to find, that five ewes and a lamb had been killed very near the camp, and in the middle of the day. This mischief was supposed to have been done by some dogs belonging to the natives.

All this time the scurvy had continued to rage with great violence; so that by the beginning of May near 200 people were incapable of work. For this reason, and on account of the great difficulty of clearing the ground, no more than eight or ten acres of wheat and barley had been sown, besides what private individuals had sown for themselves; and it was even feared that this small crop would suffer from the depredations of ants and field-mice. To procure as much relief as possible therefore in the present exigence, the Supply was sent in the beginning of May to Lord Howe Island in hopes of procuring some turtle and other provisions; but unfortunately the vessel returned without any turtle, having met with squally weather, and being obliged to cut away her best bower anchor. The natives now began to show an hostile disposition which they had not hitherto done. One of the convicts, who had wandered away from the rest in quest of vegetables, returned with a very dangerous wound in the back; giving information also, that another who had gone out for the

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same purpose had been carried off in his fight by the natives, after being wounded in the head. A shirt and hat were afterwards found in some of the huts of the natives, but no intelligence of the man could be gained. This was followed by other misfortunes of the same nature. On the 30th of the month, two men who had been employed in cutting rushes for thatch at some distance from the camp were found dead. One of them had four spears in his body, one of which had pierced quite through it; but the other had no marks of violence upon him. In this case, however, it was proved, that those who suffered had been the aggressors; as they had been seen with one of the canoes of the natives which they had taken from one of the fishing places. All possible inquiry was made after the natives who had been guilty of the murder, but to no purpose. In the course of this inquiry, it was found that one of the natives had been murdered, and several wounded, previous to the attack upon the rush-cutters. The governor promised liberty to any convict who should discover the aggressors; but no information was procured, though it is probable that it may prevent accidents of that kind for the future. About this time the two bulls and four cows belonging to government and to the governor, having been left for some time by the man who had the charge of them, strayed into the woods and could not be recovered, though they were afterwards traced to some distance.

The 4th of June being his majesty's birth-day, was celebrated with as much festivity as circumstances would allow; and on this occasion it was first made public that the governor had given the name of *Cumberland County* to this part of the territory. The appointed boundaries were *Carmarthen* and *Lansdown hills* on the west, the northern parts of *Broken Bay* on the north, and the southern parts of *Botany Bay* on the south; thus including these three principal bays, with *Sydney Cove* nearly in the centre.

The misfortunes which attended those convicts who strayed to too great a distance from the settlement, were not sufficient to prevent some of them from rambling into the woods, in hopes of subsisting themselves there and regaining their liberty. One of these, who had been guilty of a robbery, fled into the woods on the 5th of June, but was obliged to return half-starved on the 24th. He had found it impossible to subsist in the woods, and had met with very little relief from the natives. One of them gave him a fish, but made signs for him to go away. According to his account, they themselves were in a very miserable situation; and he pretended to have seen four of them apparently dying of hunger, who made signs to him for something to eat. He pretended also to have fallen in with a party who would have burnt him, and that he made his escape from them with difficulty. He said also, that he had seen the remains of a human body lying on a fire; and endeavoured to inculcate the idea of these savages eating human flesh when other provisions were scarce. This poor wretch was tried and executed for the theft he had committed before his departure, along with another criminal.

By this time the colony was so far advanced, that the plan of a regular town had been marked out. The principal street, when finished, is to be 200 feet wide, terminated by the governor's house, the main guard,

4 H

and

New Hol-
land.15
A convict
executed16
Regular
plan of a
town laid14
Murders
committed
by the na-
tives.

New Hol-
land.

and criminal court. The plans of other streets are likewise marked out; and it is the governor's intention, that when houses are built here, the grants of land shall be made with such clauses as will prevent the building of more than one house on one allotment, which is to consist of 60 feet in front and 150 in depth. Thus a kind of uniformity will be preserved in the building, narrow streets prevented, and many inconveniences avoided, which a rapid increase of inhabitants might otherwise occasion. It has likewise been an object of the governor's attention to place the public buildings in such situations as will be eligible at all times, and particularly to give the storehouses and hospital sufficient space for future enlargement, should it be found necessary. The first huts erected in this place were composed only of the soft wood of the cabbage palm, in order to give immediate shelter, and which had the further inconvenience of being used quite green. The huts of the convicts were constructed only of upright posts wattled with slight twigs, and plastered up with clay. Buildings of stone might easily have been raised, had there been any means of procuring lime for mortar. There were three kinds of stone met with about Sydney Cove, one equal in goodness to Portland stone, an indifferent kind of sand stone or firestone, and a sort which seems to contain iron; but neither chalk nor any species of limestone have yet been discovered. Lime was indeed procured from oyster-shells collected in the neighbouring coves to construct a small house for the governor; but it cannot be expected that a sufficient quantity can thus be procured for many or very extensive buildings. Good clay for bricks has been found near Sydney Cove, and very good bricks have been made of it; the wood also, notwithstanding the many reports to the contrary, is found abundantly fit for various purposes after being thoroughly seasoned. Such specimens as have been sent to England were fine-grained and free of knots, but heavy.

On the point of land that forms the west side of the Cove a small observatory has been erected, the longitude of which has been ascertained to be $159^{\circ} 19' 30''$ east from Greenwich, and the latitude $32^{\circ} 52' 30''$ south. Instead of thatch they now make use of shingles made from a certain tree, which has the appearance of a fir, but produces wood like English oak.

17
Different
accounts of
the colony.

With regard to the state of this colony there have been various and discordant accounts. Some of these have represented the country in such a light, that it would seem impossible to subsist on it; and it has been said, that the people who have had the misfortune to go there already were in the utmost danger of starving before any assistance could be sent from Britain. These reports, however, appear not to be well-founded. Difficulties must undoubtedly be felt at the first settlement of every uninhabited country; and we are not to expect that a colony, most of whom are wretches exiled for their crimes from their own country, can thrive in an extraordinary manner for some time. It appears, indeed, that so far from the transportation to this place having had any good effect in reforming them, the governor has been obliged to execute the utmost rigour of the law by hanging several of them. A good number of others have unaccountably disappeared, and are supposed to have been murdered by

the natives, or perished with hunger in the woods; so that, unless the numbers be recruited by more respectable inhabitants, it is not likely that much can be expected from the Port Jackson settlement for a long time to come. Of this, however, there seems to be little doubt: the general spirit of emigration which prevails through most, indeed we may say all the countries of Europe, will undoubtedly soon supply a sufficient number; and even some of the Americans, notwithstanding the extent and fertility of their own country, and the liberty they enjoy in it, are said to be willing to exchange these blessings for the precarious hopes of what may be obtained in New Holland among British convicts and slaves. This rambling disposition may perhaps be accounted for from an observation which has been made, viz. that "it may admit of a doubt whether many of the accommodations of a civilized life be not more than counterbalanced by the artificial wants to which they give birth. That these accommodations do not give a satisfaction equivalent to the trouble with which they are procured, is certain; and it is no wonder, then, to find numbers of people in every country who are willing to exchange them for independent ease and tranquillity, which belong, comparatively speaking, to few individuals in those countries which are called civilized."

With regard to the geography of this extensive country, which may perhaps be reckoned a fifth general division of the world, Captains Cook and Furneaux so fully explored its coasts, that succeeding navigators have added nothing to their labours. The only part which still remains unknown is that between the latitudes of $37^{\circ} 58'$ and 39° south; and as none of the fleet which lately sailed from Britain could be supposed to undertake any voyage of discovery, it is unknown whether or not a strait intersects the continent in this place or not. Captain Tench, however, informs us, on the authority of a naval friend, "that when the fleet was off this part of the coast, a strong set-off shore was plainly felt."

A vast chain of lofty mountains run nearly in a north and south direction farther than the eye can trace, about 60 miles inland. The general face of the country is pleasing, diversified with gentle risings and small winding valleys, covered for the most part with large spreading trees, affording a succession of leaves in all seasons. A variety of flowering shrubs, almost all entirely new to an European, and of exquisite fragrance, abound in those places which are free from trees; and among these, a tall shrub, bearing an elegant flower, which smells like English may, is peculiarly delightful, and perfumes the air to a great distance. There are but few trees; and, as Captain Tench and others relate, of so bad a grain, that they can scarcely be used for any purpose: This, however, Mr Stockdale ascribes to their being used in an unseasoned state, as has been already mentioned. In return for these bad qualities, however, the trees yield vast quantities of the gum already mentioned as a cure for the dysentery. It is of an acrid quality, and therefore requires to be given along with opiates. The tree which yields it is of very considerable size, and grows to a great height before it puts out any branches. The gum itself is usually compared to *sanguis draconis*, but differs from it in being perfectly soluble in water, which

New Hol-
land.18
General ac-
count of the
country.19
Red and
yellow
gums.

New Hol-
land.

which the sanguis draconis does not. It may be extracted from the wood by tapping, or taken out of the veins when dry. The leaves are narrow, and not unlike those of a willow; the wood fine grained and heavy, but warps to such a degree, when not properly seasoned, as soon to become entirely useless.

The yellow gum is properly a resin, being entirely insoluble in water. It greatly resembles gamboge, but has not the property of staining. It is produced by a low small plant with long grassy leaves; but the fructification shoots out in a surprising manner from the centre of the leaves on a single straight stem to the height of 12 or 14 feet. This stem is strong and light, and is used by the natives for making their spears. The resin is generally dug up from the soil under the tree, not collected from it, and may perhaps be the same which Tasman calls *gum lac of the ground*. It has been tried by Dr Blanc physician to St Thomas's hospital, who found it very efficacious in the cure of old fluxes, and that in many and obstinate cases. Many of the New Holland plants have been already imported into Britain, and are now flourishing in perfection at the nursery gardens of Mr Lee of Hammer-smith.

The soil immediately around Sydney Cove is sandy, with here and there a stratum of clay; but hitherto the produce has not been remarkable. The principal difficulty hitherto experienced in cleaning the ground arises from the size of the trees, which is said to be so enormous, that 12 men have been employed for five days in grubbing up one. Captain Cook speaks of some fine meadows about Botany Bay, but none of these have been seen by the present settlers, and Governor Phillip supposes them to have been swamps seen at a distance. Grass grows in almost every place, but in the swamps with the greatest vigour and luxuriance, though not of the finest quality. It is found to agree better with cows and horses than sheep. A few wild fruits are sometimes procured; among which is a kind of small purple apple mentioned by Captain Cook; and a fruit which has the appearance of a grape, but tasting like a green gooseberry, and excessively sour.

20
Scarcity of
fresh wa-
ter.

From the first discovery of this continent, the extreme scarcity of fresh water has been mentioned by every navigator. None have been fortunate enough to enter the mouth of any navigable river such as might be expected in a country of such extent. The settlers about Port Jackson found enough for common purposes of life; but Captain Tench informs us, that when he left the country, towards the end of 1788, there had been no discovery of a stream large enough to turn a mill. Since that time, however, Governor Phillip has been more successful; as we are informed by a letter of his to Lord Sidney, of date Feb. 13. 1790: In this letter he relates, that soon after the ships sailed in November 1788, he again made an excursion to Botany Bay, where he staid five days; but the researches he made there tended only to confirm him in the opinion he already entertained that the country round it was by no means an eligible situation for a colony. After having visited Broken Bay several times with boats, a river was found, which has since been traced, and all those branches explored which afforded any depth of water. This river has

21
Rivers dis-
covered by
Captain
Phillip.

obtained the name of *Hawkesbury*, is from 300 to 800 feet wide, and seems navigable for the largest merchant ships as far up as Richmond hill, at which it becomes very shallow, and divides into two branches; on which account the governor calls Richmond Hill the head of the river. As after very heavy rains, however, the water sometimes rises 30 feet above its level, it would not be safe for ships to go up so far; but 15 or 20 miles below it they would lie in fresh water, and be perfectly safe.

The country about Broken Bay is at first high and rocky, but as we proceed up the river it becomes more level, the banks being covered with timber, and the soil a light rich mould, supposed to be very capable of cultivation. The other branches of this river are shallow, but probably run many miles up into the country. Great numbers of black swans and wild ducks were seen on these rivers, and the natives had several decoys for catching quails.

Richmond hill, near which a fall prevented the boats from proceeding farther up, is the most southerly of a large range of hills which run to the northward, and probably join the mountains nearly parallel to the coast from 50 to 60 miles inland. The soil of this hill is good, and it lies well for cultivation. There is a very extensive prospect from the top, the whole country around seeming a level covered with timber. There is a flat of six or seven miles between Richmond hill and a break in the mountains which separates Lansdown and Carmarthen hills; in which flat the governor supposes that the Hawkesbury continues its course; though the river could not be seen on account of the timber with which the ground is every where covered where the soil is good. Six miles to the southward of Port Jackson is a small river; and 20 to the westward is one more considerable, which probably empties itself into the Hawkesbury. As far as this river was at that time explored, the breadth was computed at from 300 to 400 feet. It was named the *Nepaan*, and, like the Hawkesbury, sometimes rises 30 feet above its level. A party who crossed the river attempted to reach the mountains, but found it impossible, probably for want of provisions. After the first day's journey they met with such a succession of deep ravines, the sides of which were frequently so inaccessible, that in five days they could not proceed farther than 15 miles. At the time they turned back, they supposed themselves to be 12 miles from the foot of the mountains. With regard to the state of the colony, it appears from this letter to be as flourishing as could in any reasonable manner be expected. Another has been formed at a place called Rosehill, at the head of the harbour of Sydney Cove. At this place is a creek, which at half flood has water for large boats to go three miles up; and one mile higher the water is fresh and the soil good. Some ground having been cleared and cultivated, the governor in the above letter writes, that 27 acres were sown with corn, and that in December the crop was got in: That the corn was exceedingly good; about 200 bushels of wheat and 60 of barley, with a small quantity of flax, Indian corn, and oats; all which is preserved for seed: That if settlers are sent out, and the convicts divided amongst them, this settlement will very shortly maintain itself; but without which this country cannot be cultivated to any advantage. "At

New Hol-
land

New Hol-
land.

present (continues the governor) I have only one person, who has about 100 convicts under his direction, who is employed in cultivating the ground for the public benefit, and he has returned the quantity of corn above mentioned into the public store: the officers have not raised sufficient to support the little stock they have: some ground I have had in cultivation will return about 40 bushels of wheat into store; so that the produce of the labour of the convicts employed in cultivation has been very short of what might have been expected, and which I take the liberty of pointing out to your lordship in this place; to show as fully as possible the state of this colony, and the necessity of the convicts being employed by those who have an interest in their labour." The country for 20 miles to the westward is very capable of cultivation; though the labour of cutting down the trees is very great. At Sydney Cove the stores had been infested by a swarm of rats which destroyed no less than 12,000 lb. weight of flour and rice. The gardens also had suffered very considerably; so that, having met with such a considerable loss of provision, and a sufficient supply not being procured from the Cape, governor Phillip thought proper to send a further detachment to Norfolk Island, where the fertility of the soil afforded great hopes of their being able in a short time to subsist themselves independent of any assistance from the stores.

22
Govern-
ment of the
colony.

With regard to the civil establishment in this colony, governor Phillip's jurisdiction extends from 43° 49' to 10° 37' south, being the northern and southern extremities of the continent. It commences again in 135° E. Long. from Greenwich; and proceeding in an easterly direction, includes all the islands within the above mentioned latitudes in the Pacific ocean; by which partition it is supposed that every source of litigation will be cut off, as all these are indisputably the discovery of the British navigators.

The powers of the governor are absolutely unlimited, no mention being made of a council to assist him in any thing; and as no stated time is appointed for assembling the courts similar to the assizes and gaol deliveries in England, the duration of imprisonment is altogether in his hands. He is likewise invested with a power of summoning general courts martial; but the insertion in the marine mutiny act, of a smaller number of officers than 13 being able to compose such a tribunal, has been neglected; so that a military court, should detachments be made from head quarters, or sickness prevail, may not always be found practicable to be obtained, unless the number of officers in the settlement at present be increased. The governor is allowed to grant pardons in all cases, treason and wilful murder excepted; and even in these he has authority to stay the execution of the law until the king's pleasure shall be signified. In case of the governor's death, the lieutenant governor takes his place; and on his decease, the authority is lodged in the hands of the senior officer.

It was not long after the convicts were landed that there appeared a necessity for assembling a criminal court; and it was accordingly convened by warrant from the governor. The members were the judge advocate, who presided, three naval, and three marine officers. The number of members is limited by act of parliament to seven; who are expressly ordered to be

officers either of his majesty's sea or land forces. The court being met, completely arrayed and armed as at a military tribunal, the judge advocate proceeds to administer the usual oaths taken by jurymen in England to each member; one of whom afterwards swears him in a like manner. This ceremony being over, the crime is laid to the prisoner's charge, and the question "guilty or not guilty" put to him. No law officer being appointed on the part of the crown, the party at whose suit he is tried is left to prosecute the prisoner entirely by himself. All the witnesses are examined on oath; and the decision must be given according to the laws of England, or "as nearly as may be, allowing for the circumstances and situation of the settlement," by a majority of votes, beginning with the youngest member, and ending with the president of the court. No verdict, however, can be given in cases of a capital nature, unless at least five of the seven members concur therein. The evidence on both sides being finished, and the prisoner's defence heard, the court is cleared, and, on the judgment being settled, is thrown open again, and sentence pronounced. During the time of sitting, the place in which it is assembled is directed to be surrounded by a guard under arms, and admittance granted to every one who chuses to enter it. Of late, however, says captain Tench, our colonists are supposed to be in such a train of subordination, as to make the presence of so large a military force unnecessary; and two centinels in addition to the provost martial are considered as sufficient.

23
The first trials which came before this court were Trials of those of three convicts, one of whom was convicted of having struck a marine with a cooper's adze, and behaving otherwise in a most scandalous and riotous manner. For this he was condemned to receive 150 lashes, being a smaller punishment than a soldier would have suffered in a similar case. A second, for having committed a petty theft, was sent to a small barren island, and kept there on bread and water only for a week. The third was sentenced to receive 50 lashes; but being recommended by the court to the governor, had his sentence remitted. The same lenity, however, could not be observed in all cases. One fellow, who had been condemned to be hanged, was pardoned while the rope was about his neck, on condition that he would become the common executioner ever after. He accepted the horrid office, but not without a pause. Some examples of severity were undoubtedly necessary; and among these it is impossible to avoid feeling some regret for the fate of one who suffered death for stealing a piece of soap of eight pence value: but by the last letter of governor Phillip, we are informed that the convicts in general are now behaving much better; more so indeed than ever he expected. The last statement was of one woman who had suffered for a robbery; five children had died, and 28 been born. The whole amount of the deaths 77, of the births 87.

The number of convicts already sent to New South Wales amounts to 2000 and upwards—above 1800 are since embarked for that settlement. The annual expence of the civil and military establishments at that place is nearly L. 10,000.

Besides the criminal court, there is an inferior one composed of the judge advocate, and one or more justices

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land.

justices of the peace, for the trial of small misdemeanors. This court is likewise empowered to decide all law-suits; and its verdict is final, except where the sum exceeds L. 300, in which case an appeal can be made to England from its decree. In case of necessity, an admiralty court, of which the lieutenant governor is judge, may also be summoned for the trial of offences committed on the high seas.

24
Animals
found in
New Hol-
land.

The quadrupeds on the continent of New Holland hitherto discovered are principally of the Opossum kind, of which the most remarkable is the Kangaroo. There is also a species of dogs very different from those known in Europe. They are extremely fierce, and never can be brought to the same degree of familiarity with those we are acquainted with. Some of them have been brought to England, but still retain their usual ferocity. There are a great many beautiful birds of various kinds; among which the principal are the black swans already mentioned, and the ostrich or cassowary; which last arrives frequently at the height of seven feet or more. Several kinds of serpents, large spiders, and scolopendras, have also been met with. There are likewise many curious fishes; though the finny tribe seem not to be so plentiful on the coast as to give any considerable assistance in the way of provisions for the colony. Some very large sharks have been seen in Port Jackson, and two smaller species, one named the Port Jackson shark, the other Watts's shark. The latter, notwithstanding its diminutive size, the mouth scarce exceeding an inch in breadth, is excessively voracious. One of them having been taken and flung down upon the deck, lay there quiet for two hours; after which Mr Watts's dog happening to pass by, the fish sprung upon it with all the ferocity imaginable, and seized it by the leg in such a manner that the animal could not disengage himself without assistance.

25
Climate.

The climate of this continent appears not to be disagreeable, notwithstanding the violent complaints which some have made about it. The heat has never been excessive in summer, nor is the cold intolerable in winter. Storms of thunder and lightning are frequent; but these are common to all warm countries; and it has been supposed (though upon what foundation does not well appear) that were the country cleared of wood, and inhabited, these would in a great measure cease. A shock of an earthquake has likewise been felt; but these natural calamities are incident to some of the finest countries in the world. It is not known whether there are any volcanoes or not.

26
Account of
the inhabi-
tants.

The inhabitants of New Holland are by all accounts represented as the most miserable and savage race of mortals, perhaps, existing on the face of the earth. They go entirely naked; and though pleased at first with some ornaments which were given them, they soon threw them away as useless. It does not appear, however, that they are insensible of the benefits of clothing, or of some of the conveniencies which their new neighbours are in possession of. Some of them, whom the colonists partly clothed, seemed to be pleased with the comfortable warmth they derived from it; and they all express a great desire for the iron tools which they see their neighbours make use of. Their colour, in the opinion of captain Cook, is rather a deep chocolate than a full black; but the filth with which their skins

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land.

are covered, prevents the true colour of them from appearing. At some of their interviews with the colonists, several droll instances happened of their mistaking the negroes among the colonists for their own countrymen. Notwithstanding their disregard for European finery, they are fond of adorning, or rather deforming, their bodies with scars; so that some of them cut the most hideous figure that can be imagined. The scars themselves have an uncommon appearance. Sometimes the flesh is raised several inches from the skin, and appears as if filled with wind; and all these seem to be reckoned marks of honour among them. Some of them perforate the cartilage of the nose and thrust a large bone through it, an hideous kind of ornament humorously called by the sailors their *sprit-sail yard*. Their hair is generally so much clotted with the red gum already mentioned, that they resemble a mop. They also paint themselves with various colours like most other savages: they will also sometimes ornament themselves with beads and shells, but make no use of the beautiful feathers procurable from the birds of the country. Most of the men want one of the fore teeth in the upper jaw; a circumstance mentioned by Dampier and other navigators; and this also appears to be a badge of honour among them. It is very common among the women to cut off the two lower joints of the little finger; which, considering the clumsiness of the amputating instruments they possess, must certainly be a very painful operation. This was at first supposed to be peculiar to the married women, or those who had borne children, but some of the oldest women were found without this distinction, while it was observed in others who were very young.

The New Hollanders appear extremely deficient in the useful arts. Of the cultivation of the ground they have no notion; nor can they even be prevailed upon to eat bread or dressed meat. Hence they depend entirely for subsistence on the fruits and roots they can gather, with the fish they catch. Governor Phillip also mentions their frequent setting fire to the grass, in order to drive out the opossums and other animals from their retreats; and we have already taken notice of their using decoys for quails. As all these resources, however, must be at best precarious, it is no wonder that they are frequently distressed for provisions. Thus, in the summer-time they would eat neither the shark nor sting-ray; but in winter any thing was acceptable. A young whale being driven ashore, was quickly cut in pieces and carried off. They broiled it only long enough to scorch the outside; and in this raw state they eat all their fish. They broil also the fern root and another whose species is unknown. Among the fruits used by them is a kind of wild fig; and they eat also the kernels of a fruit resembling the pine apple. The principal part of their subsistence, however, is fish; and when these happened to be scarce, they were wont to watch the opportunity when the colonists hauled the seine, and often seized the whole, though a part had formerly been offered or given them. They sometimes strike the fish from the canoes with their spears, sometimes catch them with hooks, and also make use of nets, contrary to the assertion of Dr Hawkesworth, who says that none of these are to be met with among them. Their nets are generally made of the fibres of the flax plant, with very little preparation, and are strong

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land.

strong and heavy; the lines of which they are composed twisted like whip-cord. Some of them, however, appear to be made of the fur of an animal, and others of cotton. The meshes of their nets are made of very large loops artificially inserted into each other, but without any knots. Their hooks are made of the inside of a shell very much resembling mother-of-pearl. The canoes in which they fish are nothing more than large pieces of bark tied up at both ends with vines; and considering the slight texture of these vessels, we cannot but admire the dexterity with which they are managed, and the boldness with which they venture in them out to sea. They generally carry fire along with them in these canoes, to dress their fish when caught. When fishing with the hook, if the fish appears too strong to be drawn ashore by the line, the canoe is paddled to the shore; and while one man gently draws the fish along, another stands ready to strike it with a spear, in which he generally succeeds. There is no good reason for supposing them to be cannibals, and they never eat animal substances but raw or next to it. Some of their vegetables are poisonous when raw, but deprived of this property when boiled. A convict unhappily experienced this by eating them in an unprepared state; in consequence of which he died in 24 hours. The dislike of the New Hollanders to the European provisions has already been mentioned: if bread be given them, they chew and spit it out again, seldom choosing to swallow it. They like salt beef and pork rather better; but they could never be brought to taste spirits a second time.

The huts of these savages are formed in the most rude and barbarous manner that can be imagined. They consist only of pieces of bark laid together in the form of an oven, open at one end, and very low, though long enough for a man to lie at full length. There is reason, however, to believe, that they depend less on them for shelter than on the caverns with which the rocks abound. They go invariably naked, as has already been observed; though we must not imagine that the custom of going naked inures them so to the climate as to make them insensible to the injuries of the weather. The colonists had repeated opportunities of observing this, by seeing them shivering with cold in the winter time, or huddling together in heaps in their huts or in caverns, till a fire could be kindled to warm them. It is probable, however, notwithstanding their extreme barbarity, that some knowledge of the arts will soon be introduced among them, as some have been seen attentively considering the utensils and conveniences of the Europeans, with a view, seemingly, of making similar improvements of their own. It has also been observed, that in some things they possess a very great power of imitation. They can imitate the songs and language of the Europeans almost instantaneously, much better than the latter can imitate theirs by long practice. Their talent for imitation is also discernible in their sculptures representing men and other animals every where met with on the rocks; which, though rude, are very surprising for people who have not the knowledge even of constructing habitations in the least comfortable for themselves, or even clothes to preserve them from the cold.

In their persons, the New Hollanders are active, vi-

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land.

gorous, and stout, though generally lean. Dampier asserts that they have a dimness of sight; though later navigators have determined this to be a mistake, ascribing to them, on the contrary, a quick and piercing sight. Their sense of smelling is also very acute. One of them having touched a piece of pork, held out his finger for his companion to smell with strong marks of disgust. The only kind of food they eagerly accept of is fish. Their behaviour with regard to the women has been hitherto unaccountable to the colonists. Few of them, comparatively speaking, have been seen; and these have sometimes kept back with the most jealous sensibility; sometimes offered with the greatest familiarity. Such of the females as have been seen, have soft and pleasing voices; and notwithstanding their barbarism and excessive rudeness, seem not to be entirely destitute of modesty.

The New Hollanders generally display great personal bravery on the appearance of any danger. An old man, whom governor Phillip had treated with some familiarity, took occasion to steal a spade; but being taken in the fact, the governor gave him a few slight slaps on the shoulder; on which the old man caught hold of a spear, and, coming up to him, seemed for some time determined to strike, though had he done so it would have been impossible for him to escape, being then surrounded by the officers and soldiers. No encounters between parties of the natives themselves have been observed, though from some circumstances it appears that wars are carried on among them. They have more than once been seen assembled as if bent on some expedition. An officer one day met 14 of them marching along in a regular Indian file through the woods, each man having a spear in one hand and a stone in the other. A chief appeared at their head, who was distinguished from the rest by being painted. They passed on peaceably, though greatly superior in number to our people. On another occasion they offered no hostilities when assembled to the number of 200 or 300, and meeting the governor attended only by a small party. With all their courage, however, they are much afraid of a musket, and almost equally so of a red coat, which they know to be the martial dress of the Europeans. The mischief which they have hitherto done has been exercised only on some straggling convicts, most of whom probably have been the first aggressors.

Though these savages allow their beards to grow to a considerable length, it does not appear that they look upon them to be any ornament, but rather the contrary, as appears from the following instance. Some young gentlemen belonging to the *Sirius*, one day met an old man in the woods with a beard of considerable length. This his new acquaintance let him know that they would rid him of, stroking their chins, and showing him the smoothness of them at the same time. At length the old fellow consented; and one of the youngsters taking a penknife from his pocket, and making the best substitute for lather he could, performed the operation with such success that the Indian seemed highly delighted. In a few days he paddled alongside of the *Sirius* again, pointing to his beard; but could not by any means be prevailed upon to enter the ship. On this a barber was sent down to him, who again freed him from his beard, at which

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land.

which he expressed the utmost satisfaction. It has, however, been found impossible to form any kind of permanent intercourse with the natives, though many attempts have been made for that purpose; but in his letter above quoted, governor Phillip declares that he has not the least apprehension of their doing any damage to the colony. At first the colonists imagined the spears of the New Hollanders to be very trivial weapons; but it now appears that they are capable of inflicting very grievous and mortal wounds. They are sometimes pointed with a sharp piece of the same reed of which the shafts are made, but more frequently with the sharp bone of the sting-ray. They certainly burn their dead; which perhaps has given rise to the report of their being cannibals. Governor Phillip, observing the ground to be raised in several places, caused one of these tumuli to be opened, in which were found a jaw-bone half consumed and some ashes. From the manner in which the ashes are deposited, it appears that the body has been laid at length, raised from the ground a little space, and consumed in that posture; being afterwards lightly covered with mould.

The only domestic animals they have are the dogs already mentioned, which resemble the fox-dog of England. In their language these animals are called *dingo*; but all other quadrupeds without exception they name *kan-garoo*.—They seem very little given to thieving in comparison with the inhabitants of most of the South Sea islands; and are very honest among themselves, leaving their spears and other implements open on the beach, in full and perfect security of their remaining untouched. They are very expert at throwing their javelins, and will hit a mark with great certainty at a considerable distance; and it seems that sometimes they kill the kangaroo with this weapon, as a long splinter of one of the spears was taken out of the thigh of one of these animals, the flesh having closed over it completely. The people are more numerous than was at first imagined, though still the number of inhabitants must be accounted few in comparison to the extent of country; and there is great reason to believe that the interior parts are uninhabited.

The New Hollanders bake their provisions by the help of hot stones, like the inhabitants of the South-sea islands. They produce fire with great facility according to Captain Cook, but with difficulty according to later accounts, and spread it in a wonderful manner. To produce it, they take two pieces of dry soft wood; one is a stick about eight or nine inches long, the other piece is flat. The stick they shape into an obtuse point at one end; and pressing it upon the other, turn it nimbly, by holding it between both their hands, as we do a chocolate-mill; often shifting their hands up, and then moving them down upon it, to increase the pressure as much as possible. By this method they get fire in less than two minutes, and from the smallest spark they increase it with great speed and dexterity. “We have often seen (says captain Cook) one of them run along the shore, to all appearance with nothing in his hand, who stooping down for a moment, at the distance of every fifty or an hundred yards left fire behind him, as we could see, first by the smoke, and then by the flame along the drift of wood and other litter which was scattered along the place. We had the curiosity to examine

one of these planters of fire when he set off, and we saw him wrap up a small spark in dry grass, which when he had run a little way, having been fanned by the air that his motion produced, began to blaze; he then laid it down in a place convenient for his purpose, inclosing a spark of it in another quantity of grass, and so continued his course.”

HOLLAND in commerce, a fine and close kind of linen, so called from its being first manufactured in Holland.

HOLLAR (Wenceslaus), a celebrated engraver, born at Prague in 1607. His parents were in a genteel line of life; and he was at first designed for the study of the law. But the civil commotions, which happened in his youth, ruining his family affairs, he was obliged to shift for himself; and by discovering some genius for the arts, he was placed with Marian, a very able designer and engraver of views. Being himself a man of great ingenuity, he profited hastily from the instruction of his tutor. He principally excelled in drawing geometrical and perspective views and plans of buildings, ancient and modern cities and towns; also landscapes, and every kind of natural and artificial curiosities; which he executed with a pen in a very peculiar style, excellently well adapted to the purpose. He travelled through several of the great cities of Germany; and, notwithstanding all his merit, met with so little encouragement, that he found it very difficult to support himself. The earl of Arundel being in Germany took him under his protection, brought him to England, and recommended him to the favour of Charles I. He engraved a variety of plates from the Arundel collection, and the portrait of the earl himself on horseback. The civil wars, which happened soon after in England, ruined his fortune. He was taken prisoner, with some of the royal party, and with difficulty escaped; when he returned to Antwerp, and joined his old patron the earl of Arundel. He settled in that city for a time, and published a considerable number of plates; but his patron going to Italy soon after for the benefit of his health, Hollar fell again into distress, and was obliged to work for the print and book-sellers of Antwerp at very low prices. At the restoration he returned into England; where, though he had sufficient employment, the prices he received for his engravings were so greatly inadequate to the labour necessarily required, that he could but barely subsist; and the plague, with the succeeding fire of London, putting for some time an effectual stop to business, his affairs were so much embarrassed, that he was never afterwards able to improve his fortune. It is said that he used to work for the booksellers at the rate of four-pence an hour; and always had an hour glass before him. He was so very scrupulously exact, that when obliged to attend the calls of nature, or whilst talking, though with the persons for whom he was working and about their own business, he constantly laid down the glass, to prevent the sand from running. Nevertheless, all his great industry, of which his numerous works bear sufficient testimony, could not procure him a sufficient maintenance. It is melancholy to add, that on the verge of his 70th year, he was attached with an execution at his lodgings in Gardener's lane, Westminster; when he desired only the liberty of dying in his bed, and that he might not be removed to any other prison than the

Holland,
Hollar.

Hollar the grave: a favour which it is uncertain whether he obtained or not. He died, however, in 1677.—His works amount nearly to 24,000 prints, according to Vertue's Catalogue; and the lovers of art are always zealous to collect them. Generally speaking, they are etchings performed almost entirely with the point; and their merits are thus characterised by Mr Strutt: "They possess great spirit, with astonishing freedom and lightness, especially when we consider how highly he has finished some of them. His views of abbeys, churches, ruins, &c. with his shells, muffs, and every species of still life, are admirable; his landscapes frequently have great merit; and his distant views of towns and cities are not only executed in a very accurate, but a very pleasing manner." A somewhat colder character is given of them by Mr Gilpin in his Essay on Prints: "Hollar gives us views of particular places, which he copies with great truth, unornamented as he found them. If we are satisfied with exact representations, we have them no where better than in Hollar's works: but if we expect pictures, we must seek them elsewhere. Hollar was an antiquarian and a draughtsman; but seems to have been little acquainted with the principles of painting. Stiffness is his characteristic, and a painful exactness void of taste. His larger views are mere plans. In some of his smaller, at the expence of infinite pains, something of an effect is sometimes produced. But in general, we consider him as a repository of curiosities, a record of antiquated dresses, abolished ceremonies, and edifices now in ruins."

HOLLOA, in the sea-language, an exclamation of answer, to any person who calls to another to ask some question, or to give a particular order. Thus, if the master intends to give any order to the people in the main-top, he previously calls, *Main-top, hoay!* to which they answer, *Holloa!* to show that they hear him, and are ready. It is also the first answer in hailing a ship at a distance. See **HAILING**.

HOLLY, in botany. See **ILEX**.

Sea-HOLLY. See **ERYNGIUM**.

HOLM (Sax. *bulmus*, *insula amnica*), denotes an isle or fenny ground, according to Bede; or a river-island. And where any place is called by that name, and this syllable is joined with any other in the names of places, it signifies a place surrounded with water; as the Flatholmes and Stepholmes in the Severn near Bristol: but if the situation of the place is not near the water, it may then signify a hilly place; *holm* in Saxon, signifying also "a hill or cliff."

HOLOCAUST (formed from *ολος* "whole," and *καίω* "I consume with fire"), a kind of sacrifice, wherein the whole offering is burnt or consumed by fire, as an acknowledgement that God, the creator, preserver, and lord of all, was worthy of all honour and worship, and as a token of men giving themselves entirely up to him. It is called also in Scripture a *burnt-offering*.—Sacrifices of this sort are often mentioned by the heathens as well as Jews; particularly by Xenophon, *Cyropæd. lib. viii. p. 464. ed. Hutchins.* 1738, who speaks of sacrificing holocausts of oxen to Jupiter, and of horses to the sun: and they appear to have been in use long before the institution of the other Jewish sacrifices by the law of Moses; (see Job i. 5. xlii. 8. and Gen. xxii. 13. viii. 20). On this account,

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the Jews, who would not allow the Gentiles to offer **Holocausts** on their altar any other sacrifices peculiarly enjoined by the law of Moses, admitted them by the Jewish priests to offer holocausts; because these were a sort of sacrifices prior to the law, and common to all nations. During their subjection to the Romans, it was no uncommon thing for those Gentiles to offer sacrifices to the God of Israel at Jerusalem. Holocausts were deemed by the Jews the most excellent of all their sacrifices. It is said, that this kind of sacrifice was in common use among the heathens, till Prometheus introduced the custom of burning only a part, and reserving the remainder for his own use. See **SACRIFICE**.

HOLOFERNES, lieutenant general of the armies of Nebuchadonofor king of Assyria, who having in a remarkable encounter overcome Arphaxad king of the Medes, sent to all the neighbouring nations with an intention of obliging them this way to submit to his empire, pretending that there could be no power capable of resisting him. At the same time Holofernes, at the head of a powerful army, passed the Euphrates, entered Cilicia and Syria, and subdued almost all the people of these provinces.

Being resolved to make a conquest of Egypt, he advanced towards Judæa, little expecting to meet with any resistance from the Jews. In the mean time, he was informed that they were preparing to oppose him; and Achior the commander of the Ammonites, who had already submitted to Holofernes, and was with some auxiliary troops in his army, represented to him that the Hebrews were a people protected in a particular manner by God Almighty so long as they were obedient to him; and therefore he should not flatter himself with expectations of overcoming them, unless they had committed some offence against God, whereby they might become unworthy of his protection. Holofernes, disregarding this discourse, commanded Achior to be conveyed within sight of the walls of Bethulia, and tied to a tree, and left there, whither the Jews came and loosed him.

In the mean time Holofernes formed the siege of Bethulia; and having cut off the water which supplied the city, and set guards at the only fountain which the besieged had near the walls, the inhabitants were soon reduced to extremity, and resolved to surrender, if God did not send them succours in five days. Judith, being informed of their resolution, conceived the design of killing Holofernes in his camp. She took her finest clothes, and went out of Bethulia with her maid-servant; and being brought to the general, she pretended that she could no longer endure the sins and excesses of the Jews, and that God had inspired her with the design of surrendering herself to him.—As soon as Holofernes saw her, he was taken with her beauty; and some days after invited her to a great feast, which he prepared for the principal officers of his army. But he drank so much wine, that sleep and drunkenness hindered him from satisfying his passion. Judith, who in the night was left alone in his tent, cut off his head with his own sword; and departing with her servant from the camp, she returned to Bethulia with the head of Holofernes. As soon as it was day, the besieged made a sally upon the enemies, who going into their general's tent, found his headless carcase wallowing in its own blood. They then

Hologra-
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Holothu-
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then discerned that Judith had deceived them, and fled with precipitation, leaving the camp abounding with rich spoils: the Jews pursued them, killed a great number of them, and returned loaded with booty.

There is a great diversity of opinions concerning the time when this war between Holofernes and the Jews happened. Some date it from the captivity of Babylon, in the reign of Manasseh, and pontificate of Eliakim the high-priest; others place it at some time after the captivity; and some doubt the truth of the whole transaction. See the article JUDITH.

HOLOGRAPHUM (composed of *ολος* "all," and *γραφω* "I write"), in the civil law, something written wholly in the hand-writing of the person who signs it. The word is chiefly used in speaking of a testament written wholly in the testator's own hand.

The Romans did not approve of holographic testaments; and, though Valentinian authorised them by a novel, they are not used where the civil law is in full force.

HOLOSTEUM, in botany; A genus of the tri-gynia order, belonging the triandria class of plants; and in the natural method ranking under the 22d order, *Caryophyllei*. The calyx is pentaphyllous; the petals five, the capsule unilocular, and nearly cylindrical, opening at top.

HOLOTHURIA, in zoology, a genus belonging to the order of vermes mollusca. The body detached, naked, gibbous, terminated by the anus. Many tentacula at the other extremity, surrounding the mouth. There are nine species, all inhabitants of the ocean. The following descriptions of three species are given by Mr Barbut.

Plate
CCXXXV.

1. The tremula, or quivering holothuria, "commonly measures eight inches in length when dead; but alive it extends itself to more than a foot, or contracts its body into a ball. Its figure is cylindric, the diameter of which is every way equal to an inch and a few lines. The back of a dark brown proudly bears a variety of fleshy pyramid-like nipples, of a dark colour likewise at their basis, but white at their apex. They are observed to be of two different sizes; the larger occupy the length of the back, in number 14 on each side, at the distance of six lines one from the other, when the holothuria is contracted, but the intervening space is full eight lines when the animal is extended. Others like these are placed here and there promiscuously. The less are scattered in like manner, without order, in every part of the back. Out of them all exsudes a whitish mucilage serving to lubricate the body. Hence all the foresaid nipples seem to be so many glands furnished with an excretory duct, the aperture of which is so minute as not to be discoverable by the help of a common glass. That they are moreover provided with various muscles follows hence, that the holothuria can raise and obliterate them at pleasure. While the larger papillæ are quite erect, their axis and the diameter of their base measures three lines. The belly or part opposite to the back in the holothuria is of a pale brown and set all over with cylindric tentacula, in such numbers that the head of a pin could scarce find room between. Their diameter is not much above a line, and their length is that of four lines. They are of a shining whiteness, except the extremity which is of a dark colour,

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and shaped like a socket. By the help of these tentacula the holothuria fixes its body at the bottom of the sea, so as not to be easily forced away by tempests, which would otherwise happen the more frequently, as this zoophite dwells near the shores where the water scarce rises to a fathom's height. Now if it adheres to other bodies by means of its ventral tentacula, their point must necessarily have the form of a socket, as the cuttle-fish, sea-urchins, and star-fish have theirs shaped, by which they lay hold of any other body. From this situation of the holothuria at the bottom of the sea, which it also retains when kept in a vessel filled with sea-water, it must be evident to any one, that I have not groundlessly determined which was its back, and which its belly, which otherwise in a cylindric body would have been a difficult task. But as all animals uniformly walk or rest upon their bellies, and the holothuria has likewise that part of its body turned to the earth on which the cylindric tentacula are to be seen, it is clear that part is the abdomen or belly of this zoophite. However, both the abdominal and dorsal tentacula are raised and obliterated at the animal's pleasure; from which it is no light conjecture to conclude, that they are furnished with elevating and depressing muscles, and particularly because all the foresaid tentacula disappear after the animal's death: and hence it farther appears, that all naturalists have given the representation of a dead holothuria, seeing they have assigned it no tentacula. I entertain some doubt whether the illustrious Linnæus himself did not draw his generical character of the holothuria from a dead subject, as he makes no mention of these tentacula."

2. The physalis, or bladder-shaped holothuria. The body of this species is oval, approaching to triangular, of a glossy transparency; the back sharp edged, of a dark green colour, whence run out a number of sinews: anteriorly the body is of a reddish hue. The trunk spiral, reddish towards the thicker end. Many tentacula of unequal length under that thicker end; the shorter ones are taper and thicker, the middle ones capillary, the point clay colour and in shape like a ball; the rest which are longer are filiform, of which the middlemost is thicker and twice as long. Brown, in his Jamaica, calls it a diaphanous bladder with numerous tentacula representing a man's belly; above it is furnished with a comb full of cells; under the other extremity hang a number of branchy tentacula. It inhabits the seas.

3. The Pentactes, or five-rowed holothuria, has the mouth encompassed with tentacula, the body bearing tentacula five different ways. The animal is of a red colour, nearly oval, or somewhat cylindrical, assuming various shapes. The mouth is set round with ten rays bristly at the points. The body longitudinally doted in five places with clay-coloured hollow warts, situate two together. It inhabits the sea of Norway, taking in and casting out again the water, as it either swims or dives to the bottom.

HOLSTEIN, a duchy of Germany, bounded by the German ocean on the west; the Baltic, or the gulph of Lubeck, on the east; the duchy of Mecklenburg on the south-east; that of Bremen, with the river Elbe, on the south-west; and Lauenburg, with the territory of Hamburg, on the south. Its greatest

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length

Holothu-
ria,
Holstein.

Holstein length is about 80 miles, and its breadth 60. The diocese of Eutin, and the county of Ranzau, though they make a part of the duchy of Holstein, yet being lands belonging to the empire and circle, shall be described separately.

A great part of this country consists of rich marsh-land, which being much exposed to inundations both from the sea and rivers, dykes have been raised at a great expence to guard and defend them. The pastures in the marshes are so rich, that cattle are bred in vast numbers and fattened in them, and great quantities of excellent butter and cheese made of their milk. They are also very fruitful in wheat, barley, pease, beans, and rape-feed. In the more barren, sandy, and heathy parts of the country, large flocks of sheep are bred and fed: nor are orchards wanting, or woods, especially of oak and beech; nor turf, poultry, game, and wild-fowl. Here is a variety both of sea and river fish; and the beef, veal, mutton, and lamb, are very fat and palatable. Holstein is also noted for beautiful horses. The gentry usually farm the cows upon their estates to a Hollander, as he is called, who for every cow pays from six to ten rix-dollars; the owner providing pasture for them in summer, and straw and hay in winter. It is no uncommon thing here to drain the ponds and lakes once in three or four years, and sell the carp, lampreys, pikes, and perch, found in them; then sow them for several years after with oats, or use them for pasture; and after that lay them under water again, and breed fish in them. There are hardly any hills in the country; but several rivers, of which the principal are the Eyder, the Stor, and the Trave. The duchy contains about 30 towns great and small: most part of the peasants are under villenage, being obliged to work daily for their lords, and not even at liberty to quit their estates. The nobility and the proprietors of manors are possessed of the civil and criminal jurisdiction, with other privileges and exemptions. Formerly there were diets, but now they seem to be entirely laid aside: meetings, however, of the nobility are still held at Kiel. The predominant religion here is Lutheranism, with superintendencies as in other Lutheran countries. In several places the Jews are allowed the exercise of their religion. At Gluckstadt and Altena are both Calvinist and Popish churches; and at Kiel a Greek Russian chapel. Besides the Latin schools in the towns, at Altena is a gymnasium, and at Kiel an university. Notwithstanding this country's advantageous situation for commerce, there are few manufactures and little trade in it. Hamburg and Lubec supply the inhabitants with what they want from abroad; from whence and Altena they export some grain, malt, groats, starch, buck-wheat, pease, beans, rapefeed, butter, cheese, sheep, swine, horned cattle, horses, and fish. The manufactures of the duchy are chiefly carried on at Altena, Kiel, and Gluckstadt. The duchy of Holstein consists of the ancient provinces of Holstein, Stormar, Ditmarsh, and Wagria. It belongs partly to the king of Denmark and partly to the dukes of Holstein Gottorf and Ploen. Anciently the counts of Holstein were vassals of the dukes of Saxony; but afterwards they received the investiture of their territories from the emperor, or the bishops of Lubec in the emperor's name, though now

the investiture is given by the emperor in person. The king of Denmark appoints a regency over his part of Holstein and the duchy of Sleswick, which has its office at Gluckstadt. The seat of the great duke's privy council and regency-court, together with the chief consistory, which is united to it, is at Kiel: there are many inferior courts and consistories, from which an appeal lies to the higher. In the duchy of Holstein, the government of the convents and nobility is alternately in the king and duke for a year, from Michaelmas to Michaelmas. The person in whom the government is lodged administers it by his regency. In some cases an appeal lies from this court to the Aulic council or chamber at Wetzlar: the convents, the nobility, and the proprietors of manors in the country, have a civil and criminal jurisdiction over their estates. The revenues of the sovereigns arise principally from their demesnes and regalia; besides which, there is a land and several other taxes and imposts. The duke's income, setting aside his ducal patrimony, has been estimated at 70,000 or 80,000 pounds. The king usually keeps here some regiments of foot and one of horse. With respect to the duke's military force, it amounts to about 800 men. The king, on account of his share in this country, styles himself *duke of Holstein, Stormar, and Ditmarsh*. The dukes both of the royal and princely house style themselves *heirs of Norway, dukes of Sleswick, Holstein, Stormar, and Ditmarsh*, and counts of *Oldenburg and Delmenhorst*. On account of Holstein, both the king of Denmark and the grand duke have a seat and voice in the college of the princes of the empire, and in that of the circle. Together with Mecklenburg they also nominate an assessor for this circle in the Aulic chamber. The matricular assessment of the whole duchy is 40 horse and 80 foot, or 800 florins; to the chamber of Wetzlar both princes pay 189 rix-dollars, 31 kruitzers. In 1735, duke Charles Frederic of Holstein Gottorf founded an order of knighthood here, viz. that of St Anne, the ensign of which is a red cross, enamelled, and worn pendant at a red ribbon edged with yellow.—The principal places of that part of the duchy belonging to the king of Denmark and the duke of Ploen are Gluckstadt, Itzhoe, Rendsburg, and Ploen; and that part belonging to the great duke are Kiel, Oldenburg, Preetz, and Altena.

HOLSTENIUS (Lucas), an ingenious and learned German, born at Hamburg in 1596, was bred a Lutheran; but being converted to popery by father Sirmond the Jesuit, he went to Rome, and attached himself to cardinal Francis Barberini, who took him under his protection. He was honoured by three popes; Urban VIII. gave him a canonry of St Peter's; Innocent X. made him librarian of the Vatican; and Alexander VII. sent him in 1655 to queen Christina of Sweden, whose formal profession of the Catholic faith he received at Inspruck. He spent his life in study, and was very learned both in sacred and profane antiquity. He died in 1661; and though he was not the author of any great works, his notes and dissertations on the works of others have been highly esteemed for the judgment and precision with which they are drawn up.

HOLT (Sir John), knight, eldest son of Sir Thomas Holt, serjeant at law, was born in 1642. He entered

Holt
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Holyhead.

tered himself of Gray's Inn in 1658; and applied to the common law with so much industry, that he soon became a very eminent barrister. In the reign of James II. he was made recorder of London, which office he discharged with much applause for about a year and a half; but lost his place for refusing to expound the law suitably to the king's designs. On the arrival of the prince of Orange, he was chosen a member of the convention parliament, which afforded him a good opportunity of displaying his abilities; so that, as soon as the government was settled, he was made lord chief justice of the court of king's bench, and a privy counsellor. He continued chief justice for 22 years, with great repute for steadiness, integrity, and thorough knowledge in his profession. Upon great occasions he asserted the law with intrepidity, though he thereby ventured to incur by turns the indignation of both the houses of parliament. He published some reports, and died in 1709.

HOLT (Sax.) "a wood;" wherefore the names of towns beginning or ending with *bolt*, as *Buck-bolt*, &c. denote that formerly there was great plenty of wood in those places.

HOLY. See HOLINESS.

HOLY-GHOST, one of the persons of the holy Trinity. See TRINITY.

Order of the HOLY GHOST, the principal military order in France, instituted by Henry III. in 1569. It consists of 100 knights, who are to make proof of their nobility for three descents. The king is the grand-master or sovereign; and as such takes an oath on his coronation-day to maintain the dignity of the order.

The knights wear a golden cross, hung about their necks by a blue silk ribbon or collar. But before they receive the order of the Holy-Ghost, that of St Michael is conferred as a necessary degree; and for this reason their arms are surrounded with a double collar.

HOLYHEAD, a town and cape of the isle of Anglesea in Wales, and in the Irish channel, where people usually embark for Dublin, there being three packet-boats that sail for that city every Monday, Wednesday, and Friday, wind and weather permitting. It is 276 miles from London, and has a very convenient harbour for the northern trade, when taken short by contrary winds. It is situated near the extremity of the isle, and is joined to the north-west part of it by a stone bridge of one arch. It has a small market on Saturdays. The parish is about five or six miles long, and two or three broad, bounded nearly by the sea. The church stands above the harbour, within an old quadrangular fortification, with a bastion at each corner built about 450. On a mountain near it is another old fortification called *Turris Munimentum*, which is an old stone wall without mortar, and in its centre is a small turret, and contains a well of water. Holyhead was frequently formerly visited by Irish rovers, and was defended as a place of consequence. There are several remains of old fortifications and Druidical antiquities in its neighbourhood, as well as chapels of religious worship. The parish church of Holyhead was built in the reign of Edward III. and is in the form of a cross, with a porch and steeple very antique. There was an old chapel near the church, now converted into a school-house. A salt-house was

erected on an island in the harbour in queen Anne's reign, but it is now in ruins. The town is little more than a fishing town, rendered considerable by being the place of passage to Ireland. It has three good inns. The passage hence to Ireland is in general about twelve hours. There is no fresh water here except from rain, nor any bread sold but what comes from Ireland. A bath and assembly-room were erected here in 1770. Under the mountains that overhang the town is a large cavern in the rock, supported by natural pillars, called the Parliament-house, accessible only by boats, and the tide runs into it. If this harbour was properly repaired, and ware-houses built, it would be very convenient for the Irish to import such of their goods as pay English duty, it being but a few hours sail from Dublin. Besides, the Dublin merchants might come over with the packets to see their goods landed. The commodities are, butter, cheese, bacon, wild-fowl, lobsters, crabs, oysters, razor-fish, shrimps, herrings, cod-fish, whittings, whiting-pollacks, cole-fish, sea-tench, turbot, soles, flounders, rays, and plenty of other fish. On the rocks the herb grows of which they make kelp, a fixed salt used in making glass, and in alum works. In the neighbourhood there is a large vein of white fullers earth and another of yellow, which might be useful to fullers. On the isle of Skerries, nine miles to the north, is a light-house, which may be seen 24 miles off. Large flocks of puffins are often seen here; they all come in one night, and depart in the same manner.

HOLY-ISLAND, a small island lying on the coast of England, 10 miles south-east of Berwick, in Northumberland. Bede calls it a *semi-island*, being, as he observes, twice an island and twice continent in one day: for at the flowing of the tide, it is encompassed by water; and at the ebb, there is an almost dry passage, both for horses and carriages, to and from the main land; from which, if measured on a straight line, it is distant about two miles eastward; but on account of some quicksands passengers are obliged to make so many detours, that the length of way is nearly doubled. The water over these flats at spring-tides is only seven feet deep.—This island was by the Britons called *Inis Medicante*; also *Lindisfarne*, from the small rivulet of Lindi or Landi, which here runs into the sea, and the Celtic word *fahren* or "recess;" and on account of its being the habitation of some of the first monks in this country, it afterwards obtained its present name of *Holy-island*. It measures from east to west about two miles and a quarter, and its breadth from north to south is scarcely a mile and a half. At the north-west part there runs out a spit of land of about a mile in length. The monastery is situated at the southernmost extremity; and at a small distance north of it stands the village. On this island there is plenty of fish and fowl; but the air and soil are bad. There is not a tree on the island. The village, which stands on a rising ground, consists but of a few scattered houses, chiefly inhabited by fishermen; and it has two inns. The north and east coasts are formed of perpendicular rocks, the other sides sink by gradual slopes to the sands. There is a commodious harbour, defended by a block-house; which last was surprised and taken in 1715, but was soon invested and retaken.

Holy-island, though really part of Northumberland, belongs to Durham; and all civil disputes must be de-

Holyhead,
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terminated by the justices of that county.—It was a very ancient episcopal seat. Ardan the first bishop, after presiding in it 14 years, died and was buried here A. D. 651. Finan, his successor, built a wooden church, thatched with reeds, but before the end of the century covered with lead by bishop Eadbert. St Cuthbert, who from a poor shepherd became monk of Melros 15 years, was prior here 12 more, when he retired to one of the barren Farn rocks, from whence he was called to this see, which he held only two years, and returned to his retirement, where he died, and was buried at the east end of his oratory, where his stone coffin is still shown. His body was found fresh 11 years after his death. Lindisfarn was ruined by the Danes, A. D. 793, when the monks carried his body about for seven years, and at last settled at Chester-le-street, whither the see was translated, and where it continued many years. On a second destruction of the monastery by the Danes they were removing to Rippon, but stopped by a miracle at Durham, where the saint continued till the reformation, when his body was found entire, and privately buried in a wooden coffin, as some pretend, near the clock, but more probably in the ground under where his shrine stood. The entrochi found among the rocks at Landisfarn are called St Cuthbert's beads, and pretended to be made by him in the night. Eighteen bishops sat here

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till the removal of the see to Chester, which had eight more till the removal to Durham, A. D. 995. Lin- disfarn became a cell to that Benedictine monastery, valued at 48 l. *per ann.* The north and south walls of the church are standing, much inclined; part of the west end remains, but the east is down. The columns of the nave are of four different sorts, 12 feet high and 5 feet diameter, massy and richer than those of Durham; the bases and capitals plain, supporting circular arches. Over each arch are large windows in pairs, separated by a short column, and over these are smaller single windows. In the north and south walls are some pointed arches. The length of the body is 138 feet, breadth 18 feet, and with the two aisles 36 feet; but it may be doubted whether there ever was a transept. One arch of the centre tower remains adorned as is its entrance from the nave with Saxon zigzag. Somewhat to the east is the base of a cross, and to the west the present parish-church (A).

Holy-Rood Day, a festival observed by the Roman catholics, in memory of the exaltation of our Saviour's cross. See CROSS and EXALTATION.

HOLYWELL, a town of North Wales, in the county of Flint. It is a place of great note, for the well of St Winnifred, who is reputed a virgin martyr; and it is much frequented by people that come to bathe in it, as well as by popish pilgrims out of devotion. The spring

(A) A reference was inadvertently made to this article for a description of BAMBOROUGH, as if it had been situated upon, or belonged to, *Holy-Island*.—BAMBOROUGH lies several miles to the south, and is situated on the main land. The town is now an inconsiderable village; but it once was a royal borough, and sent two members: it even gave name to a large tract extending southward, which was called *Bamboroughshire*. It had also three religious foundations; a house of friars preachers founded by Henry III. a cell of canons regular of St Austin, and an hospital. Its very ancient castle stands on an almost perpendicular rock close to the sea, and accessible only on the south-east side, on a spot where, according to the monkish historians, there stood the castle or palace of the kings of Northumberland; built, as it is said, by king Ida, who began his reign about the year 559. Part of the present ruins are by some supposed to be the remains of king Ida's work. The ancient name of this place was, it is said, *Bebbanborough*; whose name Cambden, from the authority of Bede, imagines borrowed from Bebb, Ida's queen: but the author of the additions to that writer is of a contrary opinion, as in the Saxon copy it is called *Cynclicanberg*, or the "royal mansion." According to Florilegus, king Ida at first fenced it only with a wooden inclosure, but afterwards surrounded it with a wall. It is thus described by Roger Hoveden, who wrote in the year 1192: "Bebba is a very strong city, but not exceeding large; containing not more than two or three acres of ground. It has but one hollow entrance into it, which is admirably raised by steps. On the top of the hill stands a fair church; and in the western point is a well curiously adorned, and of sweet clean water." This castle was besieged anno 642 by Penda, the Pagan king of the Mercians, who, as the story goes, attempted to burn it: for which purpose he laid vast quantities of wood under the walls, and set fire to it as soon as the wind was favourable; but no sooner was it kindled, than by the prayers of St Adian, the wind changed and carried the flames into his camp, so that he was obliged to raise the siege. In 710, king Osred, on the death of Alfred his father, took shelter in this castle with Brithric his tutor or guardian; one Edulph having seized the crown, by whom, with his partizans, they were unsuccessfully besieged. Brithric made so gallant a defence, that the siege was turned into a blockade, which gave the loyal subjects time to arm in defence of their young king. On their marching hither to his relief, Edulph fled, but was followed, taken, and put to death by Brithric, who thereby securely seated Osred on the throne, when this castle became his palace. In the reign of Egbert, Kenulph bishop of Lindisfarn was confined here 30 years from 750 to 780. In 933, it was plundered and totally ruined by the Danes; but being of great importance in defending the northern parts against the continual incursions of the Scots, it was soon after repaired, and made a place of considerable strength. It is said to have been in good repair at the time of the conquest, when it was probably put into the custody of some trusty Norman, and had in all likelihood some additions made to its works; and this is the more probable, as the present area, contained within its walls, measures upwards of 80 acres, instead of three, as when described by Hoveden. About the year 1095 it was in the possession of Robert de Mowbray earl of Northumberland, who engaging in some treasonable practices against William Rufus, that king laid siege to it, and obliged it to surrender. In the next reign it was entrusted by Henry I. to Eustace Fitz John, who was dispossessed of it and his other employments by king Stephen

Holyoak, spring gushes forth with such impetuosity, that at a small distance it turns several mills. Over the spring is a chapel built upon pillars, and on the windows are painted the history of St Winnifred's life. There is a moss about the well, which some foolishly imagine to be St Winnifred's hair. W. Long. 3. 15. N. Lat. 54. 23.

HOLYOAK (Francis), author of the Latin dictionary, became rector of South-ham in Warwickshire in 1604; and being greatly esteemed, was chosen member of the convocation in the first year of Charles I.'s reign. He suffered much for the king; and died in 1653, aged 87. His son Thomas made enlargements to the said Dictionary.

HOLYWOOD (John), or **HALIFAX**, or *Sacro-bosco*, was, according to Leland, Bale, and Pitts, born at Halifax in Yorkshire; according to Stainhurst, at Holywood near Dublin; and, according to Dempster and Mackenzie, in Nithsdale in Scotland. The last-mentioned author informs us, that, having finished his studies, he entered into orders, and was made a canon regular of the order of St Augustin in the famous monastery of Holywood in Nithsdale. The English biographers, on the contrary, tell us, that he was educated at Oxford. They all agree, however, in assert-

ing that he spent most of his life at Paris; where, says Mackenzie, he was admitted a member of the university on the fifth of June in the year 1221, under the syndics of the Scotch nation; and soon after elected professor of mathematics, which he taught for many years with applause. We are told by the same author, that he died in 1256, as appears from the inscription on his monument in the cloisters of the convent of St Maturine at Paris. Holywood was certainly the first mathematician of his time. He was cotemporary with Roger Bacon, but probably older by about 20 years. He wrote, 1. *De sphaera mundi*; often reprinted, and illustrated by various commentators. 2. *De anni ratione, seu de computo ecclesiastico*. 3. *De algorismo*, printed with *Comm. Petri Cirvilli Hisp.* Paris 1498.

HOMAGE, in law, is the submission, loyalty, and service, which a tenant promised to his lord when he was first admitted to the land which he held of the lord in fee: also that owing to a king, or to any superior.

HOMBERG (William), a celebrated physician, chemist, and philosopher, was the son of a Saxon gentleman, and born in Batavia, in the East Indies, in 1652. His father afterwards settling at Amsterdam, William there prosecuted his studies; and from thence removed

Homage,
Homberg.

Stephen, that king being jealous of his attachment to Maud, daughter of Henry I. Irritated at this, Fitz John delivered the castle of Alnwick to David king of Scotland, and brought to his aid all the forces he could raise; he was, however, afterwards reconciled to king Stephen, and held the manors of Burg and Knaresborough in Yorkshire, but never recovered the government of this castle.

In the 16th of Henry II. some great repairs seem to have been done here, as in Madox's history of the exchequer, under the article of Amercements, it appears one William, son of Waldef, was fined five marks for refusing his assistance in the king's works at Baenburgh castle. Its keep is supposed to have been the work of this reign.

Edward I. summoned Baliol to meet him here 1296; and on his refusal invaded Scotland, and took him prisoner. Edward II. sheltered Gaveston here 1310. It was taken by the Yorkists after the battle of Hexham. In the reign of Elizabeth Sir John Forster, warden of the marches, was governor of it, and made a knight banneret after the battle of Musselburgh; and his grandson John obtained a grant of both castle and manor from James I. His descendant Thomas forfeited it in 1715; but his maternal uncle Nathaniel Crew bishop of Durham purchased and bequeathed them to unconfined charitable uses. The ruins are still considerable; but many of them now filled with sand, caught up by the winds which rage here with great violence, and carried to very distant places. The remains of a great hall are very singular; it had been warmed by two fire places of a vast size, and from the top of every window ran a flue like that of a chimney, which reached the summits of the battlements. These flues seem designed as so many supernumerary chimnies to give vent to the smoke that the immense fires of those hospitable times filled the rooms with; for halls smoky, but filled with good cheer, were in those days thought no inconvenience. In the year 1757, the trustees for lord Crew's charity began the repairs of the keep or great tower; the direction and management being committed to Dr. Sharp archdeacon of Durham, one of their number; who has made a most judicious and humane application of his lordship's generous bequest. The walls are from 9 to 12 feet thick. The upper parts of the building have been formed into granaries; whence, in times of scarcity, corn is sold to the indigent without any distinction at four shillings per bushel. A hall and some small apartments are reserved by the Doctor, who frequently resides here to see that his noble plan is properly executed.—Among the variety of distressed who find relief from the judicious disposition of this charity, are the mariners navigating this dangerous coast, for whose benefit a constant watch is kept on the top of the tower; from whence signals are given to the fishermen of Holy Island when any ship is discovered in distress, these fishermen by their situation being able to put off their boats when none from the land can get over the breakers. The signals are so regulated as to point out the particular place where the distressed vessel lies. Besides which, in every great storm, two men on horseback patrol the adjacent coast from sun-set to sun-rise, who, in case of any shipwreck, are to give immediate notice at the castle. Premiums are likewise paid for the earliest information of any such misfortune. By these means the lives of many seamen have been, and will be, preserved, who would otherwise have perished for want of timely assistance. Nor does this benevolent arrangement stop here. The shipwrecked mariner finds an hospitable reception in this castle; and is here maintained for a week or longer, as circumstances may require. Here, likewise, are store-houses for depositing the goods which may be saved; instruments and tackle for weighing and raising the sunken and stranded vessels; and, to complete the whole, at the expence of this fund, the last offices are decently performed to the bodies of such drowned sailors as are cast on shore.

Homburg, removed to Jena, and afterwards to Leipzig, where he studied the law. In 1642, he was made advocate at Magdeburg, and there applied himself to the study of experimental philosophy. Some time after he travelled into Italy; and applied himself to the study of medicine, anatomy, and botany, at Padua. He afterwards studied at Bologna; and at Rome learned optics, painting, sculpture, and music. He at length travelled into France, England, and Holland; obtained the degree of doctor of physic at Wittemberg; travelled into Germany and the North; visited the mines of Saxony, Bohemia, Hungary, and Sweden; and returned to France, where he acquired the esteem of the learned. He was on the point of returning into Germany, when M. Colbert being informed of his merit, made him such advantageous offers, as induced him to fix his residence at Paris. M. Homburg, who was already well known for his phosphorus, for a pneumatic machine of his own invention more perfect than that of Guericke, for his microscopes, for his discoveries in chemistry, and for the great number and variety of his curious observations, was received into the academy of sciences in 1691, and had the laboratory of that academy, of which he was one of its principal ornaments. The duke of Orleans, afterwards regent of the kingdom, at length made him his chemist, settled upon him a pension, gave him the most superb laboratory that was ever in the possession of a chemist, and in 1704 made him his first physician. He had abjured the Protestant religion in 1682, and died in 1715. There are a great number of learned and curious pieces of his writing, in the memoirs of the academy of sciences, and in several journals. He had begun to give the elements of chemistry in the memoirs of the academy, and the rest were found among his papers fit for printing.

HOMBERG, a town of Germany, in the circle of the Upper Rhine, and landgravate of Hesse, seated ten miles north of Francfort, and gives title to one of the branches of the house of Hesse, who is its sovereign. E. Long. 8. 24. N. Lat. 50. 20.

HOMBERG, a town of Germany, in the palatinate of the Rhine, and duchy of Deuxponts. E. Long. 7. 6. N. Lat. 49. 20.

HOME (Henry), Lord Kames, an eminent Scottish lawyer, and author of many celebrated works on various subjects, was descended of a very honourable and ancient family, and born in the year 1696. Lord Kames's grandfather, Henry Home, was a younger son of Sir John Home of Renton, who held the high office of lord justice-clerk, or chief criminal judge of Scotland, in the year 1663. He received the estate of Kames from his uncle George, brother to the then lord justice-clerk. The family of Renton is descended from that of the earls of Home, the representatives of the ancient princes of Northumberland, as appears from the records of the Lion Office.

The county of Berwick in Scotland has the honour of having given birth to this great and useful member of society. In early youth he was lively, and eager in the acquisition of knowledge. He never attended a public school; but was instructed in the ancient and modern languages, as well as in several branches of mathematics, and the arts necessarily connected with that science, by Mr Wingate, a man of

considerable parts and learning, who spent many years as preceptor or private tutor to Mr Home.

After studying, with acuteness and diligence, at the university of Edinburgh, the civil law, and the municipal law of his own country, Mr Home early perceived that a knowledge of these alone is not sufficient to make an accomplished lawyer. An acquaintance with the forms and practical business of courts, and especially of the supreme court, as a member of which he was to seek for fame and emolument, he considered as essentially necessary to qualify him to be a complete barrister. He accordingly attended for some time the chamber of a writer to the signet, where he had an opportunity of learning the styles of legal deeds, and the modes of conducting different species of business. This wise step, independently of his great genius and unwearied application, procured him, after his admission to the bar, peculiar respect from the court, and proportional employment in his profession of an advocate. Whoever peruses the law-papers composed by Mr Home when a young man, will perceive an uncommon elegance of style, besides great ingenuity of reasoning, and a thorough knowledge of the law and constitution of his country. These qualifications, together with the strength and vivacity of his natural abilities, soon raised him to be an ornament to the Scottish bar; and, on the 2d day of February 1752, he was advanced to the bench as one of the judges of the court of session, under the title of *Lord Kames*.

Before this period, however, notwithstanding the unavoidable labours of his profession, Mr Home had favoured the world with several useful and ingenious works. In the year 1728, he published *Remarkable Decisions of the Court of Session from 1716 to 1728*, in one vol. folio.—In 1732 appeared *Essays upon several subjects in law*, viz. *Jus tertii*; *Beneficium cedendarum actionum*; *Vinco Vincentem*; and *Prescription*; in one volume 8vo. This first produce of his original genius, and of his extensive views, excited not only the attention, but the admiration of the judges, and of all the other members of the college of justice. This work was succeeded, in the year 1741, by *Decisions of the Court of Session from its first institution to the year 1740*, abridged and digested under proper heads, in form of a *Dictionary*, in two volumes folio: A very laborious work, and of the greatest utility to every practical lawyer. In 1747 appeared *Essays upon several subjects concerning British Antiquities*, viz. 1. Introduction of the feudal law into Scotland. 2. Constitution of parliament. 3. Honour, Dignity. 4. Succession, or Descent; with an appendix upon hereditary and indefeasible right, composed anno 1745, and published 1747, in one volume 8vo. In a preface to this work, Lord Kames informs us, that in the years 1745 and 1746, when the nation was in great suspense and distraction, he retired to the country; and in order to banish as much as possible the uneasiness of his mind, he contrived the plan, and executed this ingenious performance.

Though not in the order of time, we shall continue the list of all our author's writings on law, before we proceed to his productions on other subjects. In 1757, he published *The Statute law of Scotland abridged, with historical notes*, in one volume 8vo; a most useful and laborious work. In the year 1759, he presented to the public a new work under the title of *Historical*

Home. *rical Law Tracts*, in one vol. 8vo. It contains fourteen interesting tracts, viz. History of the Criminal Law:—History of Promises and Covenants:—History of Property:—History of Securities upon and for Payment of Debt:—History of the Privilege which an Heir-apparent in a feudal holding has to continue the Possession of his Ancestor:—History of Regalities, and of the Privilege of repledging:—History of Courts:—History of Brieves:—History of Process in absence:—History of Execution against Moveables and Land for Payment of Debt:—History of Personal Execution for Payment of Debt:—History of Execution for obtaining Payment after the Death of the Debtor:—History of the limited and universal Representation of Heirs:—Old and New Extent. In 1760, he published, in one volume folio, *The principles of Equity*; a work which shows both the fertility of the author's genius and his indefatigable application. In 1766, he gave to the public another volume in folio of *Remarkable Decisions of the Court of Session*, from 1730 to 1752. In 1777, appeared his *Elucidations respecting the Common and Statute Law of Scotland*, in one volume 8vo. This book contains many curious and interesting remarks upon some intricate and dubious points which occur in the law of Scotland. In 1780, he published a volume in folio of *Select Decisions of the Court of Session from 1752 to 1768*.

From this sketch of Lord Kames's compositions and collections with a view to improve and elucidate the laws of Scotland, the reader may form some idea of his great industry, and of his anxious desire to promote the honour and welfare of his country. It remains to be remarked, that in the supreme court there, the law-writings of Lord Kames are held in equal estimation, and quoted with equal respect, as those of Coke or Blackstone in the courts of England.

Lord Kames's mind was very much inclined to metaphysical disquisitions. When a young man, in order to improve himself in his favourite study, he corresponded with the famous Berkeley bishop of Cloyne, Dr Butler bishop of Durham, Dr Samuel Clark, and many other ingenious and learned men both in Britain and Ireland. The letters of correspondence, we are happy to learn, have been carefully preserved by his son and heir George Home-Drummond, Esq; of Blair-Drummond.

The year 1751 gave birth to the first fruits of his Lordship's metaphysical studies, under the title of *Essays on the Principles of Morality and natural Religion*, in two parts. Though a small volume, it was replete with ingenuity and acute reasoning, excited general attention, and gave rise to much controversy. It contained, in more explicit terms than perhaps any other work of a religious theist then known in Scotland, the doctrine which has of late made so much noise under the appellation of *philosophical necessity*. The same thing had indeed been taught by Hobbes, by Collins, and by the celebrated David Hume, Esq; but as those authors either were professed infidels, or were supposed to be such, it excited, as coming from them, no wonder, and provoked for a time very little indignation. But when a writer, who exhibited no symptoms of extravagant scepticism, who insinuated nothing against the truth of revelation in general, and who inculcated with earnestness the great duties of morality and natural religion, advanced

at the same time so uncommon a doctrine as that of *necessity*; a number of pens were immediately drawn against him, and for a while the work and its author were extremely obnoxious to a great part of the Scottish nation. On the other hand, there were some, and those not totally illiterate, who, confounding *necessity* with *predestination*, complimented Mr Home on his masterly defence of the established faith: and though between these two schemes there is no sort of resemblance, except that the future happiness or misery of all men is, according to both, certainly fore-known and appointed by God; yet we remember, that a professor in a dissenting academy so far mistook the one for the other, that he recommended to his pupils the *Essays on morality and natural religion*, as containing a complete vindication of the doctrine of Calvin. For this mistake he was dismissed from his office, and excluded from the communion of the sect to which he belonged. Lord Kames, like many other great and good men, continued a Necessarian to the day of his death; but in a subsequent edition of the essays, he exhibited a remarkable proof of his candor and liberality of sentiment, by altering the expressions, which, contrary to his intention, had given such general offence.

In 1761, he published an *Introduction to the Art of Thinking*, in one volume 12mo. This small but valuable book was originally intended for the instruction of his own family. The plan of it is both curious, amusing, and highly calculated to catch the attention and to improve the minds of youth. It consists of maxims collected from Rochefoucault and many other authors. To illustrate these maxims, and to rivet their spirit and meaning in the minds of young persons, his Lordship has added to most of them beautiful stories, fables, and historical anecdotes.

In the department of belles lettres, his *Elements of Criticism* appeared in 1762, in three volumes 8vo. This valuable work is the first and a most successful attempt to show, that the art of criticism is founded on the principles of human nature. Such a plan, it might be thought, should have produced a dry and phlegmatic performance. Lord Kames, on the contrary, from the sprightliness of his manner of treating every subject he handled, has rendered the *Elements of Criticism* not only highly instructive, but one of the most entertaining books in our language. Before this work was published, Rollin's *Belles Lettres*, a dull performance, from which a student could derive little advantage, was universally recommended as a standard; but, after the *Elements of Criticism* were presented to the public, Rollin instantly vanished, and gave place to greater genius and greater utility. With regard to real instruction and genuine taste in composition of every kind, a student, a gentleman, or a scholar, can in no language find such a fertile field of information. Lord Kames, accordingly, had the happiness of seeing the good effects of his labours, and of enjoying for twenty years a reputation which he so justly merited.

A still farther proof of the genius and various pursuits of this active mind was given in the year 1772, when his Lordship published a work in one volume 8vo, under the title of *The Gentleman Farmer, being an attempt to improve Agriculture by subjecting it to the test of rational principles*. Our limits do not permit us to give details: but, with regard to this book, we

must

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must inform the public, that all the intelligent farmers in Scotland uniformly declare, that, after perusing Young, Dickson, and a hundred other writers on agriculture, Lord Kames's *Gentleman Farmer* contains the best practical and rational information on the various articles of husbandry which can any where be obtained. As a practical farmer, Lord Kames has given many obvious proofs of his skill. After he succeeded, in right of his lady, to the ample estate of Blair-Drummond in the county of Perth, he formed a plan for turning a large moss, consisting of at least 1500 acres, into arable land. His Lordship had the pleasure, before he died, to see the plan successfully, though only partially, executed. The same plan is now carrying on in a much more rapid manner by his son George Drummond, Esq. But as this is not a proper place for details of this nature, we must refer the reader to the article Moss; where a particular account of this extraordinary, but extensively useful, operation shall be given.

In the year 1773, Lord Kames favoured the world with *Sketches of the History of Man*, in 2 vols 4to. This work consists of a great variety of facts and observations concerning the nature of man; the produce of much and profitable reading. In the course of his studies and reasonings, he had amassed a vast collection of materials. These, when considerably advanced in years, he digested under proper heads, and submitted them to the consideration of the public. He intended that this book should be equally intelligible to women as to men; and, to accomplish this end, when he had occasion to quote ancient or foreign books, he uniformly translated the passages. The *Sketches* contain much useful information; and, like all his Lordship's other performances, are lively and entertaining.

We now come to Lord Kames's last work, to which he modestly gives the title of *Loose Hints upon Education, chiefly concerning the Culture of the Heart*. It was published in the year 1781, in one vol. 8vo, when the venerable and astonishing author was in the 85th year of his age. Though his Lordship chose to call them *Loose Hints*, the intelligent reader will perceive in this composition an uncommon activity of mind at an age so far advanced beyond the usual period of human life, and an earnest desire to form the minds of youth to honour, to virtue, to industry, and to a veneration of the Deity.

Beside the books we have enumerated, Lord Kames published many temporary and fugitive pieces in different periodical works. In the *Essays Physical and Literary*, published by a society of gentlemen in Edinburgh, we find compositions of his Lordship *On the Laws of Motion, On the Advantages of Shallow Ploughing, and on Evaporation*; all of which exhibit evident marks of genius and originality of thinking.

How a man employed through life in public business,
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and in business of the first importance, could find leisure for so many different pursuits, and excel in them (A), it is not easy for a meaner mind to form even a conception. Much, no doubt, is to be attributed to the superiority of his genius; but much must likewise have been the result of a proper distribution of his time. He rose early; when in the vigour of life at four o'clock, in old age at six; and studied all morning. When the court was sitting, the duties of his office employed him from eight or nine till twelve or one; after which, if the weather permitted, he walked for two hours with some literary friends, and then went home to dinner. Whilst he was on the bench, and we believe when he was at the bar, he neither gave nor accepted invitations to dinner during the *term* or *session*; and if any friend came uninvited to dine with him, his Lordship displayed his usual cheerfulness and hospitality, but always retired with his clerk as soon as he had drunk a very few glasses of wine, leaving his company to be entertained by his lady. The afternoon was spent as the morning had been, in study. In the evening he went to the theatre or the concert, from which he returned to the society of some men of learning, with whom he sat late, and displayed such talents for conversation as are not often found. It is observed by a late celebrated author, that "to read, write, and converse, in due proportions, is the business of a man of letters; and that he who hopes to look back hereafter with satisfaction upon past years, must learn to know the value of single minutes, and endeavour to let no particle of time fall useless to the ground." It was by practising these lessons that Lord Kames rose to literary eminence, in opposition to all the obstacles which the tumult of public business could place in his way.

To give a proper delineation of the public and private character of Lord Kames, would far exceed our limits. The writer of this article, however, who had the honour of an intimate acquaintance with this great and good man for more than twenty years, must be indulged in adding a few facts which fell under his own observation.

Lord Kames was remarkable for public spirit, to which he conjoined activity and great exertion. He for a long tract of time had the principal management of all the societies and boards for promoting the trade, fisheries, and manufactures, in Scotland. As conducive to those ends, he was a strenuous advocate for making and repairing turnpike roads through every part of the country. He had likewise a chief lead in the distribution and application of the funds arising from the estates in Scotland which had unfortunately been annexed to the crown. He was no less zealous in supporting, both with his writings and personal influence, literary associations. He was in some measure the parent of what was called the *Physical and Literary Society*. This society was afterwards incorporated

(A) Upon reflecting on the studiousness of Lord Kames's disposition, and his numerous literary productions, the reader will naturally recal to his mind a striking similarity between his Lordship and the laborious Pliny the Elder. In a letter from Pliny the Younger to Macer, the following passage occurs, which is equally applicable to both: *Nonne videtur tibi, recordanti quantum legerit, quantum scripserit, nec in officiis ullis, nec in amicitia principum fuisse?* which is thus translated by Melmoth: "When you reflect on the books he has read and the volumes he has written, are you not inclined to suspect, that he never was engaged in the affairs of the public, or the service of his prince?"

Home. rated into the *Royal Society of Edinburgh*, which received a charter from the crown, and which is daily producing marks of genius, as well as works of real utility.

As a private and domestic gentleman, Lord Kames was admired by both sexes. The vivacity of his wit and of his animal spirits, even when advanced in years, rendered his company not only agreeable, but greatly solicited by the literati, and courted by ladies of the highest rank and accomplishments. He told very few stories; and rarely, if ever, repeated the same story to the same person. From the necessity of retailing anecdotes, the miserable refuge of those who, without genius, attempt to shine in conversation, the abundance of his own mind set him free; for his wit or his learning always suggested what the occasion required. He could with equal ease and readiness combat the opinions of a metaphysician, unravel the intricacies of law, talk with a farmer on improvements in agriculture, or estimate with a lady the merits of the dress in fashion. Instead of being jealous of rivals, the characteristic of little minds, Lord Kames fostered and encouraged every symptom of merit that he could discover in the scholar, or in the lowest mechanic. Before he succeeded to the estate of Blair-Drummond, his fortune was small. Notwithstanding this circumstance, he, in conjunction with Mrs Drummond, his respectable and accomplished spouse, did much more service to the indigent than most families of greater opulence. If the present necessity was pressing, they gave money. They did more: When they discovered that male or female petitioners were capable of performing any art or labour, both parties exerted themselves in procuring that species of work which the poor people could perform. In cases of this kind, which were very frequent, the lady took charge of the women and his Lordship of the men. From what has been said concerning the various and numerous productions of his genius, it is obvious that there could be few idle moments in his long protracted life. His mind was incessantly employed; either teeming with new ideas, or pursuing active and laborious occupations. At the same time, with all this intellectual ardour, one great feature in the character of Lord Kames, beside his literary talents and his public spirit, was a remarkable innocency of mind. He not only never indulged in detraction, but when any species of scandal was exhibited in his company, he either remained silent, or endeavoured to give a different turn to the conversation. As natural consequences of this amiable disposition, he never meddled with politics, even when parties ran to indecent lengths in this country; and, what is still more remarkable, he never wrote a sentence, notwithstanding his numerous publications, without a direct and a manifest intention to benefit his fellow-creatures. In his temper he was naturally warm, though kindly and affectionate. In the friendships he formed, he was ardent, zealous, and sincere. So far from being inclined to irreligion, as some ignorant bigots insinuated, few men possessed a more devout habit of thought. A constant sense of Deity, and a veneration for Providence, dwelt upon his mind. From this source arose that propensity which appears in all his writings, of investigating final causes, and tracing the wisdom of the Supreme Author of nature. But here we must stop. Lord Kames, to the

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great regret of the public, died on the 27th day of December 1782. As he had no marked disease but the debility necessarily resulting from extreme old age, a few days before his death he went to the Court of Session, addressed all the judges separately, told them he was speedily to depart, and took a solemn and an affectionate farewell.

HOMER, the prince of the Greek poets, flourished, according to Dr Blair, about 900 B. C. according to Dr Priestley 850, according to the Arundelian marbles 300, after the taking of Troy; and agreeable to them all, above 400 years before Plato and Aristotle. Seven cities disputed the glory of having given him birth, viz. Smyrna, Rhodes, Colophon, Salamis, Chios, Argos, and Athens; which has been expressed by the following distich:

*Smyrna, Rhodes, Colophon, Salamis, Chios, Argos, Athens;
Orbis de patria certat, Homere, tua.*

We have nothing that is very certain in relation to the particulars of his life. The most regular account is that which goes under the name of Herodotus, and is usually printed with his history: and though it is generally supposed to be a spurious piece, yet as it is ancient, was made use of by Strabo, and exhibits that idea which the later Greeks, and the Romans in the age of Augustus, entertained of Homer, we must content ourselves with giving an abstract of it.

A man of Magnesia, whose name was *Menalippus*, went to settle at Cumæ, where he married the daughter of a citizen called *Homyres*, and had by her a daughter called *Critheis*. The father and mother dying, the young woman was left under the tuition of Cleonax her father's friend, and suffering herself to be deluded was got with child. The guardian, though his care had not prevented the misfortune, was however willing to conceal it; and therefore sent Critheis to Smyrna, which was then building, 18 years after the founding of Cumæ, and about 168 after the taking of Troy. Critheis being near her time, went one day to a festival, which the town of Smyrna was celebrating on the banks of the river Meles; where her pains coming upon her, she was delivered of Homer, whom she called *Melefigenes*, because he was born on the banks of that river. Having nothing to maintain her, she was forced to spin: and a man of Smyrna called *Phemius*, who taught literature and music, having often seen Critheis, who lodged near him, and being pleased with her housewifery, took her into his house to spin the wool he received from his scholars for their schooling. Here she behaved herself so modestly and discreetly, that Phemius married her; and adopted her son, in whom he discovered a wonderful genius, and the best natural disposition in the world. After the death of Phemius and Critheis, Homer succeeded to his father-in-law's fortune and school; and was admired, not only by the inhabitants of Smyrna, but by strangers, who resorted from all parts to that place of trade. A shipmaster called *Mentes*, who was a man of learning and a lover of poetry, was so taken with Homer, that he persuaded him to leave his school, and to travel with him. Homer, who had then begun his poem of the Iliad, and thought it of great consequence to see the places he should have occasion to treat of, embraced the opportunity. He embarked with Mentes, and during their several voyages never failed carefully

Homer.

to note down all that he thought worth observing. He travelled into Egypt; from whence he brought into Greece the names of their gods, the chief ceremonies of their worship, and a more improved knowledge in the arts than what prevailed in his own country. He visited Africa and Spain; in his return from whence he touched at Ithaca, where he was much troubled with a rheum falling upon his eyes. Mentès being in haste to take a turn to Leucadia his native country, left Homer well recommended to Mentor, one of the chief men of the island of Ithaca, who took all possible care of him. There Homer was informed of many things relating to Ulysses, which he afterwards made use of in composing his *Odyssey*. Mentès returning to Ithaca, found Homer cured. They embarked together; and after much time spent in visiting the coasts of Peloponnesus and the islands, they arrived at Colophon, where Homer was again troubled with the defluxion upon his eyes, which proved so violent, that he is said to have lost his sight. This misfortune made him resolve to return to Smyrna, where he finished his *Iliad*. Some time after, the ill posture of his affairs obliged him to go to Cumæ, where he hoped to have found some relief. Here his poems were highly applauded: but when he proposed to immortalize their town, if they would allow him a salary, he was answered, that "there would be no end of maintaining all the *ὄμφοι* or "blind men;" and hence got the name of *Homer*. He afterwards wandered through several places, and stopped at Chios, where he married, and composed his *Odyssey*. Some time after, having added many verses to his poems in praise of the cities of Greece, especially of Athens and Argos, he went to Samos, where he spent the winter, singing at the houses of the great men, with a train of boys after him. From Samos he went to Ios, one of the Sporades, with a design to continue his voyage to Athens; but landing by the way at Chios, he fell sick, died, and was buried on the sea-shore.

The only incontestable works which Homer has left behind him are the *ILIAD* and *ODYSSEY*. The *Batrachomyomachia*, or battle of the frogs and mice, has been disputed. The hymns have been disputed also, and attributed by the scholiasts to Cynæthus the rhapsodist: but neither Thucydides, Lucian, nor Pausanias, have scrupled to cite them as genuine. Many other pieces are ascribed to him: epigrams, the *Eartiges*, the *Cecropes*, the destruction of *Oechalia*, of which only the names are remaining.

Nothing was ever comparable to the clearness and majesty of Homer's style; to the sublimity of his thoughts; to the strength and sweetness of his verses. All his images are striking; his descriptions just and exact; the passions so well expressed, and nature so just and finely painted, that he gives to every thing motion, life, and action. But he more particularly excels in invention, and in the different characters of his heroes, which are so varied, that they affect us in an inexpressible manner. In a word, the more he is read by a person of good taste, the more he is admired. Nor are his works to be esteemed merely as entertaining poems, or as the monuments of a sublime and varied genius. He was in general so accurate with respect to costume, that he seldom mentioned persons or things that we may not conclude to have been known during

the times of which he writes; and it was Mr Pope's opinion, that his account of people, princes, and countries, was purely historical, founded on the real transactions of those times, and by far the most valuable piece of history and geography left us concerning the state of Greece in that early period. His geographical divisions of that country were thought so exact, that we are told of many controversies concerning the boundaries of Grecian cities which have been decided upon the authority of his poems.

Alcibiades gave a rhetorician a box on the ear for not having Homer's writings in his school. Alexander was ravished with them, and commonly placed them under his pillow with his sword: he inclosed the *Iliad* in the precious casket that belonged to Darius; "in order (said he to his courtiers) that the most perfect production of the human mind might be inclosed in the most valuable casket in the world." And one day seeing the tomb of Achilles in Sigæa, "Fortunate hero! (cried he), thou hast had a Homer to sing thy victories!" Lycurgus, Solon, and the kings and princes of Greece, set such a value on Homer's works, that they took the utmost pains in procuring correct editions of them, the most esteemed of which is that of Aristarchus. Didymus was the first who wrote notes on Homer; and Eustathius, archbishop of Thessalonica, in the 12th century, is the most celebrated of his commentators. Mr Pope has given an elegant translation of the *Iliad*, adorned with the harmony of poetic numbers; and Mad. Dacier has translated both the *Iliad* and *Odyssey* in prose.

Those who desire to know the several editions of Homer, and the writers who have employed themselves on the works of that great poet, may consult Fabricius, in the first volume of his *Bibliotheca Græca*.

A very singular discovery, however, which was made a few years ago in Russia, deserves to be here mentioned, together with the circumstances that attended it. Christian Frederic Matthæi, who had been educated by the learned Ernesti, and did credit to the instructions of that celebrated master by the great erudition that he displayed, being invited to settle at Moscow, and to assist in a plan of literature for which his abilities and acquisitions eminently qualified him; on his arrival at that city was informed, equally to his astonishment and satisfaction, that a very copious treasure of Greek manuscripts was deposited in the library of the Holy synod, which no person in that country had either the abilities to make use of, or the curiosity to examine. Struck with the relation of a circumstance so unexpected, and at the same time so peculiarly agreeable to his classical taste, he immediately seized the opportunity that was fortunately offered him, to explore this repository of hidden treasure. After having examined several curious books, he discovered a manuscript copy of the works of Homer, written about the conclusion of the 14th century, but evidently a transcript from a very ancient and most valuable copy, which, besides the *Iliad* and the *Odyssey*, contains also 16 of the hymns, which have been long published under the name of *Homer*. Nor was this all. Twelve lines of a lost hymn to Bacchus, and the hymn to Ceres, which was also lost, were preserved in this curious and long unnoticed manuscript. The hymn to Ceres appears to be entire, excepting a few lines towards the close: and it is surely remarkable, that

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Homer. that a Greek poem, attributed to Homer, which had been lost for ages, should be at length discovered in Muscovy, the rudest and most unclassical country in Europe. M. Matthæi, exulting in an acquisition so unexpected, and at the same time so valuable, communicated it, with singular disinterestedness, to his learned friend M. Ruhnkenius, with whose talents and extraordinary erudition he was well acquainted, that this gentleman might present it to the world without those delays which would probably have retarded the publication of it at Moscow. He was rather induced to employ M. Ruhnkenius in the publication of this curious and beautiful remnant of antiquity, because he knew that this gentleman had been particularly engaged in the study of the hymns of Homer, in order to give the public a complete edition of them. The hymn to Ceres, and the fragment of the hymn to Bacchus, were printed in 1780 at Leyden, under the care of M. Ruhnkenius; who has added some very valuable notes and observations on the hymn to Ceres, which tend to illustrate its beauties, and to throw a light on some of its obscurities. The learned editor observes, that nothing was more distant from his expectations than the discovery of this hymn to Ceres. He knew indeed that a poem bearing that title, and ascribed to Homer, existed in the second century; but as it had long been considered as irretrievably lost, he had formed no hopes of ever seeing it rescued from the obscurity to which it had been consigned. He acknowledges, that he has many doubts with respect to the high and illustrious origin ascribed to this hymn: but as no positive external evidence can be produced to determine the point, he chooses to rest his argument on what appears to him the more certain ground of internal proof; and observes, that though the poem be exquisitely beautiful, yet that it is evidently deficient in some of Homer's more striking and predominant characteristics. It wants his energy and spirit; that vigour, that inspiration, which animate and give an irresistible power, as well as an enchanting beauty, to the poems of that sublime and inimitable bard. This opinion, as we have already seen, hath been given by other critics of all the hymns of Homer. But though M. Ruhnkenius is not inclined to attribute the hymn of Ceres to Homer, he yet acknowledges, that the structure of its language is founded on the model of that great poet, and he hesitates not to give it the honour of very high antiquity. He is of opinion, that it was written immediately after Homer, or at least in the age of Hesiod: and he congratulates the age on the discovery of so curious a poem, rescued by mere accident from the darkest retreats of oblivion, and perhaps but at a slight distance from inevitable perdition. He deems it to be an acquisition, not only calculated to gratify the curiosity of the connoisseurs in classic antiquity, or to entertain those lovers of Greek poetry whose studies are made subservient to a refined and elegant species of amusement, but he also esteems it to be of particular use to the critic, as it tends to illustrate some obscure passages both in the Greek and Latin poets.

HOMER, OMER, or CHOMER, a Jewish measure, containing the tenth part of the epha. See **CORUS** and **MEASURE**.

HOMESOKEN. See **HAMESECKEN**.

HOMICIDE, signifies in general, the taking away of any person's life. It is of three kinds; *justifiable*,

excusable, and *felonious*. The first has no share of Homicide, guilt at all; the second very little; but the third is the highest crime against the law of nature that man is capable of committing.

I. Justifiable homicide is of divers kinds.

1. Such as is owing to some unavoidable *necessity*, without any will, intention, or desire, and without any inadvertence or negligence, in the party killing, and therefore without any shadow of blame; as, for instance, by virtue of such an office as obliges one, in the execution of public justice, to put a malefactor to death, who hath forfeited his life by the laws and verdict of his country. This is an act of necessity, and even of civil duty; and therefore not only justifiable, but commendable, where the law requires it. But the law must *require* it, otherwise it is not justifiable: therefore wantonly to kill the greatest of malefactors, a felon, or a traitor, attainted or outlawed, deliberately, uncompelled, and extrajudicially, is murder. And farther, if judgment of death be given by a judge not authorized by lawful commission, and execution is done accordingly, the judge is guilty of murder. Also such judgment, when legal, must be executed by the proper officer, or his appointed deputy; for no one else is *required* by law to do it, which requisition it is that justifies the homicide. If another person doth it of his own head, it is held to be murder: even though it be the judge himself. It must farther be executed, *servato juris ordine*; it must pursue the sentence of the court. If an officer beheads one who is adjudged to be hanged, or *vice versa*, it is murder: for he is merely ministerial, and therefore only justified when he acts under the authority and compulsion of the law. But, if a sheriff changes one kind of punishment for another, he then acts by his own authority, which extends not to the commission of homicide: and besides, this licence might occasion a very gross abuse of his power. The king indeed may remit part of a sentence, as in the case of treason, all but the beheading: but this is no change, no introduction of a new punishment; and in the case of felony, where the judgment is *to be hanged*, the king (it hath been said) cannot legally order even a peer to be beheaded.

Again: In some cases homicide is justifiable, rather by the *permission*, than by the absolute *command*, of the law: either for the *advancement* of public justice, which without such indemnification would never be carried on with proper vigour; or, in such instances where it is committed for the *prevention* of some atrocious crime, which cannot otherwise be avoided.

2. Homicides, committed for the *advancement* of public justice, are, 1. Where an officer, in the execution of his office, either in a civil or criminal case, kills a person that assaults and resists him. 2. If an officer, or any private person, attempts to take a man charged with felony, and is resisted; and, in the endeavour to take him, kills him. 3. In case of a riot, or rebellious assembly, the officers endeavouring to disperse the mob are justifiable in killing them, both at common law, and by the riot act, 1 Geo. I. c. 5. 4. Where the prisoners in a gaol, or going to gaol, assault the gaoler or officer, and he in his defence kills any of them, it is justifiable, for the sake of preventing an escape. 5. If trespassers in forests, parks, chases, or warrens, will not surrender themselves to the keepers, they may be slain; by virtue of the statute

Homicide. 21 Edward I. ft. 2. *de malefactoribus in parais*, and 3 & 4 W. & M. c. 10. But, in all these cases, there must be an apparent necessity on the officer's side; viz. that the party could not be arrested or apprehended, the riot could not be suppressed, the prisoners could not be kept in hold, the deer-stealers could not but escape, unless such homicide were committed: otherwise, without such absolute necessity, it is not justifiable. 6. If the champions in a trial by battle killed either of them the other, such homicide was justifiable, and was imputed to the just judgment of God, who was thereby presumed to have decided in favour of the truth.

3. In the next place, such homicide as is committed for the *prevention* of any forcible and atrocious crime, is justifiable by the law of nature; and also by the law of England, as it stood so early as the time of Bracton, and as it is since declared by stat. 24 H. VIII. c. 5. If any person attempts a robbery or murder of another, or attempts to break open a house *in the night-time* (which extends also to an attempt to burn it), and shall be killed in such attempt, the slayer shall be acquitted and discharged. This reaches not to any crime unaccompanied with force, as picking of pockets; or to the breaking open of any house *in the day-time*, unless it carries with it an attempt of robbery also. So the Jewish law, which punished no theft with death, makes homicide only justifiable in case of *nocturnal* house-breaking: "if a thief be found breaking up, and he be smitten that he die, no blood shall be shed for him: but if the sun be risen upon him, there shall blood be shed for him; for he should have made full restitution." At Athens, if any theft was committed by night, it was lawful to kill the criminal, if taken in the fact: and, by the Roman law of the twelve tables, a thief might be slain by night with impunity; or even by day, if he armed himself with any dangerous weapon: which amounts very nearly to the same as is permitted by our own constitutions.

The Roman law also justifies homicide, when committed in defence of the chastity either of one's self or relations: and so also, according to Selden, stood the law in the Jewish republic. The English law likewise justifies a woman killing one who attempts to ravish her: and so too the husband or father may justify killing a man, who attempts a rape upon his wife or daughter; but not if he takes them in adultery by consent; for the one is forcible and felonious, but not the other. And there is no doubt but the forcibly attempting a crime, of a still more detestable nature, may be equally resisted by the death of the unnatural aggressor. For the one uniform principle that runs through our own, and all other laws, seems to be this: That where a crime, in itself capital, is endeavoured to be committed by force, it is lawful to repel that force by the death of the party attempting. But we must not carry this doctrine to the same visionary length that Mr Locke does; who holds, "that all manner of force without right upon a man's person, puts him in a state of war with the aggressor; and, of consequence, that, being in such a state of war, he may lawfully kill him that puts him under this unnatural restraint." However just this conclusion may be in a state of uncivilized nature, yet the law of Eng-

land, like that of every other well-regulated community, is too tender of the public peace, too careful of the lives of the subjects, to adopt so contentious a system; nor will suffer with impunity any crime to be *prevented* by death, unless the same, if committed, would also be *punished* by death.

In these instances of *justifiable* homicide, it may be observed, that the slayer is in no kind of fault whatsoever, not even in the minutest degree: and is therefore to be totally acquitted and discharged, with commendation rather than blame. But that is not quite the case in *excusable* homicide, the very name whereof imports some fault, some error, or omission; so trivial, however, that the law excuses it from the guilt of felony, though in strictness it judges it deserving of some little degree of punishment.

II. Excusable homicide is of two sorts; either *per infortunium*, by misadventure; or *se defendendo*, upon a principle of self-preservation. We will first see wherein these two species of homicide are distinct, and then wherein they agree.

1. Homicide *per infortunium*, or misadventure, is where a man, doing a lawful act, without any intention of hurt, unfortunately kills another: as where a man is at work with a hatchet, and the head thereof flies off and kills a stander-by; or, where a person, qualified to keep a gun, is shooting at a mark, and undesignedly kills a man: for the act is lawful, and the effect is merely accidental. So where a parent is moderately correcting his child, a master his apprentice or scholar, or an officer punishing a criminal, and happens to occasion his death, it is only misadventure; for the act of correction was lawful: but if he exceeds the bounds of moderation, either in the manner, the instrument, or the quantity of punishment, and death ensues, it is manslaughter at least, and in some cases (according to the circumstances) murder; for the act of immoderate correction is unlawful. Thus by an edict of the emperor Constantine, when the rigour of the Roman law with regard to slaves began to relax and soften, a master was allowed to chastise his slave with rods and imprisonment, and if death accidentally ensued, he was guilty of no crime: but if he struck him with a club or a stone, and thereby occasioned his death, or if in any other yet grosser manner "*immoderate suo jure utatur, tunc reus homicidii fit.*"

But to proceed. A tilt or tournament, the martial diversion of our ancestors, was however an unlawful act; and so are boxing and sword-playing, the succeeding amusement of their posterity: and therefore, if a knight in the former case, or a gladiator in the latter, be killed, such killing is felony of manslaughter. But if the king command or permit such diversion, it is said to be only misadventure; for then the act is lawful: In like manner as, by the laws both of Athens and Rome, he who killed another in the *pancratium*, or public games, authorised or permitted by the state, was not held to be guilty of homicide. Likewise to whip another's horse, whereby he runs over a child and kills him, is held to be accidental in the rider, for he has done nothing unlawful; but manslaughter in the person who whipped him, for the act was a trespass, and at best a piece of idleness, of inevitably dangerous consequence. And in general, if death ensues in consequence of an idle, dangerous, and

Exod. xxii.
2.

Homicide. and unlawful sport, as shooting or casting stones in a town, or the barbarous diversion of cock-throwing; in these and similar cases, the slayer is guilty of manslaughter, and not misadventure only; for these are unlawful acts.

2. Homicide in *self-defence*, or *se defendendo*, upon a sudden affray, is also excusable rather than justifiable, by the English law. This species of self-defence must be distinguished from that just now mentioned, as calculated to hinder the perpetration of a capital crime; which is not only a matter of excuse, but of justification. But the self-defence which we are now speaking of, is that whereby a man may protect himself from an assault, or the like, in the course of a sudden brawl or quarrel, by killing him who assaults him. And this is what the law expresses by the word *chance-medley*, or (as some rather choose to write it) *chaud-medley*; the former of which in its etymology signifies a *casual* affray, the latter an affray in the *heat* of blood or passion: both of them of pretty much the same import; but the former is in common speech too often erroneously applied to any manner of homicide by misadventure; whereas it appears by the statute 24 H. VIII. c. 5. and our ancient books, that it is properly applied to such killing as happens in self-defence upon a sudden rencounter. The right of natural defence does not imply a right of attacking: for, instead of attacking one another for injuries past or impending, men need only have recourse to the proper tribunals of justice. They cannot therefore legally exercise this right of preventive defence, but in sudden and violent cases; when certain and immediate suffering would be the consequence of waiting for the assistance of the law. Wherefore, to excuse homicide by the plea of self-defence, it must appear that the slayer had no other possible means of escaping from his assailant.

In some cases this species of homicide (upon *chance-medley* in self-defence) differs but little from manslaughter, which also happens frequently upon *chance-medley* in the proper legal sense of the word. But the true criterion between them seems to be this; when both parties are actually combating at the time when the mortal stroke is given, the slayer is then guilty of manslaughter; but if the slayer hath not begun to fight, or (having begun) endeavours to decline any farther struggle, and afterwards, being closely pressed by his antagonist, kills him to avoid his own destruction, this is homicide excusable by self-defence. For which reason the law requires, that the person, who kills another in his own defence, should have retreated as far as he conveniently or safely can, to avoid the violence of the assault, before he turns upon his assailant; and that not fictitiously, or in order to watch his opportunity, but from a real tenderness of shedding his brother's blood. And though it may be cowardice, in time of war between two independent nations, to flee from an enemy; yet between two fellow-subjects, the law countenances no such point of honour: because the king and his courts are the *vindices injuriarum*, and will give to the party wronged all the satisfaction he deserves. In this the civil law also agrees with ours, or perhaps goes rather farther; "*qui cum aliter tueri se non possunt, damni culpam dederint, innoxii sunt.*" The party assaulted must therefore flee as far as he conveniently can, either by reason of some wall, ditch, or

other impediment; or as far as the fierceness of the assault will permit him; for it may be so fierce as not to allow him to yield a step, with manifest danger of his life, or enormous bodily harm; and then in his defence he may kill his assailant instantly. And this is the doctrine of universal justice, as well as of the municipal law.

And, as the *manner* of the defence, so is also the *time* to be considered: for if the person assaulted does not fall upon the aggressor till the affray is over, or when he is running away, this is revenge and not defence. Neither, under the colour of self-defence, will the law permit a man to screen himself from the guilt of deliberate murder: for if two persons, A and B, agree to fight a duel, and A gives the first onset, and B retreats as far as he safely can, and then kills A, this is murder; because of the previous malice and concerted design. But if A upon a sudden quarrel assaults B first, and, upon B's returning the assault, A really and *bona fide* flies; and, being driven to the wall, turns again upon B and kills him; this may be *se defendendo*, according to some of our writers; though others have thought this opinion too favourable: inasmuch as the necessity, to which he is at last reduced, originally arose from his own fault. Under this excuse of self-defence, the principal civil and natural relations are comprehended: therefore, master and servant, parent and child, husband and wife, killing an assailant in the necessary defence of each other respectively, are excused; the act of the relation assisting being construed the same as the act of the party himself.

There is one species of homicide *se defendendo*, where the party slain is equally innocent as he who occasions his death: and yet this homicide is also excusable from the great universal principle of self-preservation, which prompts every man to save his own life preferable to that of another, where one of them must inevitably perish. As, among others, in that case mentioned by lord Bacon, where two persons, being shipwrecked, and getting on the same plank, but finding it not able to save them both, one of them thrusts the other from it, whereby he is drowned. He who thus preserves his own life at the expence of another man's, is excusable through unavoidable necessity, and the principle of self-defence; since their both remaining on the same weak plank is a mutual, though innocent, attempt upon, and an endangering of, each other's life.

Let us next take a view of those circumstances wherein those two species of homicide, by misadventure and self-defence, agree; and those are in their blame and punishment. For the law sets so high a value upon the life of a man, that it always intends some misbehaviour in the person who takes it away, unless by the command or express permission of the law. In the case of misadventure, it presumes negligence, or at least a want of sufficient caution in him who was so unfortunate as to commit it; who therefore is not altogether faultless. And as to the necessity which excuses a man who kills another *se defendendo*, lord Bacon intitles it *necessitas culpabilis*, and thereby distinguishes it from the former necessity of killing a thief or a malefactor. For the law intends that the quarrel or assault arose from some unknown wrong, or some provocation, either in word or deed: and since in quarrels

Homicide.

quarrels both parties may be, and usually are, in some fault; and it scarce can be tried who was originally in the wrong; the law will not hold the survivor entirely guiltless. But it is clear, in the other case, that where I kill a thief who breaks into my house, the original default can never be upon my side. The law besides may have a farther view, to make the crime of homicide more odious, and to caution men how they venture to kill another upon their own private judgment; by ordaining, that he who slays his neighbour, without an express warrant from the law so to do, shall in no case be absolutely free from guilt.

Nor is the law of England singular in this respect. Even the slaughter of enemies required a solemn purification among the Jews; which implies, that the death of a man, however it happens, will leave some stain behind it. And the Mosaiical law appointed certain cities of refuge for him "who killed his neighbour unawares; as if a man goeth into the wood with his neighbour to hew wood, and his hand fetcheth a stroke with the ax to cut down a tree, and the head slippeth from the helve, and lighteth upon his neighbour that he die, he shall flee into one of those cities and live." But it seems he was not held wholly blameless, any more than in the English law; since the avenger of blood might slay him before he reached his asylum, or if he afterwards stirred out of it till the death of the high priest. In the imperial law likewise casual homicide was excused, by the indulgence of the emperor signed with his own sign manual, "*adnotatione principis*;" otherwise, the death of a man, however committed, was in some degree punishable. Among the Greeks, homicide by misfortune was expiated by voluntary banishment for a year. In Saxony, a fine is paid to the kindred of the slain; which also, among the western Goths, was little inferior to that of voluntary homicide: and in France, no person is ever absolved in cases of this nature, without a largess to the poor, and the charge of certain masses for the soul of the party killed.

The penalty inflicted by our laws is said by Sir Edward Coke to have been anciently no less than death; which, however, is with reason denied by later and more accurate writers. It seems rather to have consisted in a forfeiture, some say of all the goods and chattel, others of only a part of them, by way of fine or *weregild*: which was probably disposed of, as in France, in *pious usus*, according to the humane superstition of the times, for the benefit of his soul who was thus suddenly sent to his account with all his imperfections on his head. But that reason having long ceased, and the penalty (especially if a total forfeiture) growing more severe than was intended, in proportion as personal property has become more considerable, the delinquent has now, and has had as early as our records will reach, a pardon and writ of restitution of his goods as a matter of course and right, only paying for suing out the same. And, indeed, to prevent this expense, in cases where the death has notoriously happened by misadventure or in self-defence, the judges will usually permit (if not direct) a general verdict of acquittal.

III. Felonious homicide is an act of a very different nature from the former, being the killing of a human creature, of any age or sex, without justification or

excuse. This may be done either by killing one's self, or another man: for the consideration of which, see the articles *SELF-MURDER*, *MURDER*, and *MANSLAUGHTER*.

HOMILY, in ecclesiastical writers, a sermon or discourse upon some point of religion, delivered in a plain manner, so as to be easily understood by the common people. The word is Greek, *ομιλία*; formed of *ομιλῶ*, *catus*, "assembly or council."

The Greek homily, says M. Fleury, signifies a familiar discourse, like the Latin *sermo*; and discourses delivered in the church took these denominations, to intimate, that they were not harangues or matters of ostentation and flourish, like those of profane orators, but familiar and useful discourses, as of a master to his disciples, or a father to his children.

All the homilies of the Greek and Latin fathers are composed by bishops. We have none of Tertullian, Clemens Alexandrinus, and many other learned persons; because, in the first ages, none but bishops were admitted to preach. The privilege was not ordinarily allowed to priests till toward the fifth century. St Chrysostom was the first presbyter that preached flatly. Origen and St Augustine also preached; but it was by a peculiar licence or privilege.

Photius distinguishes *homily* from *sermon*; in that the homily was performed in a more familiar manner, the prelate interrogating and talking to the people, and they in their turn answering and interrogating him, so that it was properly a conversation; whereas the sermon was delivered with more form, and in the pulpit, after the manner of the orators.

The practice of compiling homilies, which were to be committed to memory, and recited by ignorant or indolent priests, commenced towards the close of the 8th century; when Charlemagne ordered Paul Deacon and Alcuin to form homilies or discourses upon the Gospels and Epistles, from the ancient doctors of the church. This gave rise to that famous collection intitled the *Homiliarium of Charlemagne*, and which being followed as a model by many productions of the same kind, composed by private persons, from a principle of pious zeal, contributed much (says Mosheim) to nourish the indolence, and to perpetuate the ignorance of a worthless clergy.

There are still extant several fine homilies, composed by the ancient fathers, particularly St Chrysostom and St Gregory.

Clementine HOMILIES, in ecclesiastical history, are nineteen homilies in Greek, published by Cotelierius, with two letters prefixed; one of them written in the name of Peter, the other in the name of Clement, to James bishop of Jerusalem; in which last letter they are intitled Clement's Epitome of the Preaching and Travels of Peter. According to Le Clerc, these homilies were composed by an Ebionite in the second century; but Montfaucon supposes that they were forged long after the age of St Athanasius. Dr Lardner apprehends, that the Clementine homilies were the original or first edition of the Recognitions; and that they are the same with the work censured by Eusebius under the title of Dialogues of Peter and Apion.

HOMINE REPLEGIANDO, a writ for the bailing of a man out of prison when he is confined without commandment of the king or his judges, or for any cause that

Homily
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Homine.

Hommoc
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Honan.

that is repleviabie. But this writ is now seldom used; a writ of *habeas corpus* being sued out on the necessary occasions.

HOMMOC, a name given by mariners to a hillock or small eminence of land, resembling the figure of a cone, and appearing on the sea-coast of any country.

HOMO, MAN, is ranked by Linnæus under the order of primates; and characterised by having four parallel foreteeth both in the upper and lower jaw, and two mammæ on the breast. The species, according to this author, are two, viz. the *homo sapiens*, and the *homo troglodytes*.

He subdivides the *homo sapiens* into five varieties, viz. the American, the European, the Asiatic, the African, and what he calls the *monstrous*. See MAN.

The troglodytes, or orang outang, is a native of Ethiopia, Java, and Amboina. His body is white; he walks erect; and is about one-half the ordinary human size. He generally lives about 25 years. He conceals himself in caves during the day, and searches for his prey in the night. He is said to be exceedingly sagacious, but is not endowed with the faculty of speech. See TROGLODYTES, SIMIA, and COMPARATIVE ANATOMY, p. 250, col. 2.

HOMOGENEOUS, or HOMOGENEAL (composed of the Greek *σμος* like, and *γενος* kind), is a term applied to various subjects, to denote, that they consist of similar parts, or of parts of the same nature and kind: in contradistinction to *heterogeneous*, where the parts are of different natures, &c.

HOMOLOGATION, in the civil law, the act of confirming or rendering a thing more valid and solemn, by publication, repetition, or recognition thereof.—The word comes from the Greek *ομολογια* “consent, assent;” formed of *ομος* *similis*, “like,” and *λογος*, of *λογειν*, *dicere*, “to say;” *q. d.* to say the same thing, to consent, agree.

HOMOLOGOUS, in geometry, an appellation given to the corresponding sides and angles of similar figures, as being proportional to each other.

HONAN, a province of China, bounded on the north by that of Ptecheli and Chanfi, on the west by Chanfi, on the south by Houquang, and on the east by Chantong. Every thing that can contribute to render a country delightful is found united in this province; the Chinese therefore call it *Tong-hoa* or the *middle flower*: it is indeed situated almost in the centre of China. The ancient emperors, invited by the mildness of the climate and the beauty of the country, fixed their residence here for some time. The abundance of its fruits, pastures, and corn, the effeminacy of its inhabitants (who are accounted extremely voluptuous), and lastly, the cheapness of provisions, have no doubt prevented trade from being so flourishing here as in the other provinces of the empire. The whole country is flat excepting towards the west, where there arises a long chain of mountains, covered with thick forests; and the land is in such a high state of cultivation, that those who travel through it imagine they are walking in an immense garden.—Besides the river Hoangho, which traverses this province, it is watered by a great number of springs and fountains; it has also a valuable lake, which invites to its banks a prodigious number of workmen, because its water has the property of communicating a lustre to silk, which can-

not be imitated. Exclusive of forts, castles, and places of strength, this province contains eight *fou* or cities of the first class, and 102 of the second and third. In one of these cities named *Nanyang*, is found a kind of serpent, the skin of which is marked with small white spots: the Chinese physicians steep it in wine, and use it afterwards as an excellent remedy against the palsy.

HONAN-Fou, a city of the above province, situated amidst mountains and between three rivers. The Chinese formerly believed this city to be the centre of the earth, because it was in the middle of their empire. Its jurisdiction is very extensive; for it comprehends one city of the second class and thirteen of the third: one of these cities named *Teng-fong-bien*, is famous on account of the tower erected by the celebrated Tcheou-kong for an observatory; there is still to be seen in it an instrument which he made use of to find the shadow at noon, in order to determine the latitude. This astronomer lived above a thousand years before the Christian era, and the Chinese pretend that he invented the mariner's compass.

HONDEKOOTER (Melchior), a famous Dutch painter born at Utrecht, excelled in painting animals, and especially birds. His father and grandfather were of the same profession, and their subjects the same. He was trained up to the art by his father; but surpassed not only him, but even the best of his cotemporaries in a very high degree. Till he was seventeen years of age, he continued under the direction of his father, and accustomed himself to paint several sorts of birds; but particularly he was pleased to represent cocks, hens, ducks, chickens, and peacocks, which he described in an elegant variety of actions and attitudes.—After his father's death, which happened in 1653, he received some instructions from his uncle John Baptist Weenix; but his principal and best instructor was nature, which he studied with intense application. His pencil was wonderfully neat and delicate; his touch light; his colouring exceedingly natural, lively, and remarkably transparent; and the feathers of his fowls were expressed with such a swelling softness, as might readily and agreeably deceive the eye of any spectator. It is reported that he had trained up a cock to stand in any attitude he wanted to describe, and that it was his custom to place that creature near his easel; so that at the motion of his hand the bird would fix itself in the proper posture, and would continue in that particular position without the smallest perceptible alteration for several hours at a time. The landscapes which he introduces as the back grounds of his pictures, are adapted with peculiar judgment and skill, and admirably finished; they harmonize with his subject, and always increase the force and the beauty of his principal objects. His touch was very singular, in imitating the natural plumage of the fowls he painted; which not only produced a charming effect, but also may prove serviceable to an intelligent observer, to assist him in determining which are the genuine works of this master, and which are impositions. His pictures sell at a high price, and are much sought after. He died at Utrecht in 1695, aged 59.

HONDURAS, a province of North America in New Spain, lying on the North Sea, being about 370 miles in length, and 200 in breadth; it was discovered

Honam
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Honduras.

Hone.
Honey.

ed by Christopher Columbus in the year 1502. The English have been possessed of the logwood country on the bay of Honduras a great while, and cut large quantities every year. The Mosquito native Americans live in the eastern parts; and being independent of the Spaniards, have entered into treaties with the English, and serve them in several capacities. This province is watered by several rivers, which enrich the country by their inundations; and it is very fertile in Indian corn. It is said there are some mines of gold and silver in this province. Valadolid is the capital town.

HONE, a fine kind of white stone, used for setting razors, pen-knives, and the like.

HONEY, a sweet vegetable juice, collected by the bees from the flowers of various plants, and deposited in the cells of the comb; from which it is extracted either by spontaneous percolation through a sieve in a warm place, the comb being separated and laid thereon, or by expression. That which runs spontaneously is purer than that which is expressed, a quantity of the wax and other matters being forced out along with it by the pressure. The best sort of honey is of a thick consistence, a whitish colour inclining to yellow, an agreeable smell, and pleasant taste: both the colour and flavour are said to differ in some degree, according to the plants which the bees collect it from. It is supposed that honey is merely the juice of the flower perspiring, and becoming inspissated thereon; and that the bee takes it up with its proboscis, and carries it to be deposited in its waxen cells, with which the young bees are to be fed in summer, and the old ones in winter: but it is certain, that honey can be procured by no other method of collecting this juice than by the bees. The honey wrought by the young bees, and that which is permitted to run from the comb without heat or pressure, is white and pure, and called *virgin's honey*. The honey of old bees, and that which is forced from the comb by heat or pressure, is yellow, from the wax. Honey produced where the air is clear and hot, is better than that where the air is variable and cold.—The honey of Narbonne in France, where rosemary abounds, is said to have a very manifest flavour of that plant, and to be imitable by adding to other honey an infusion of rosemary flowers.

Honey, considered as a medicine, is a very useful detergent and aperient, powerfully dissolving viscid juices, and promoting the expectoration of tough phlegm. In some particular constitutions it has an inconvenience of griping, or of proving purgative; which is said to be in some measure prevented by previously boiling the honey. This, however, with all constitutions, is by no means effectual; and the circumstance mentioned has had so much weight with the Edinburgh college, that they do not now employ it in any preparation, and have entirely rejected the *mella medicata*, substituting syrups in their place: but there can be no doubt that honey is very useful in giving form to different articles, although there be some individuals with whom it may disagree. In order, however, to obtain the good effects of the honey itself, it must be used to a considerable extent, and as an article of diet. The following remarkable instances of the good effects of honey in some asthmatic cases, given by Dr Monro in his Medical and Pharmaceutical

Nº 156.

Chemistry, deserve to be here inserted. “The late Dr John Hume, one of the commissioners of the sick and hurt of the royal navy, was for many years violently afflicted with the asthma. Having taken many medicines without receiving relief, he at last resolved to try the effects of honey, having long had a great opinion of its virtues as a pectoral. For two or three years he ate some ounces of it daily, and got entirely free of his asthma, and likewise of a gravelly complaint which he had long been afflicted with. About two years after he had recovered his health, when he was sitting one day in the office for the sick and hurt, a person labouring under a great difficulty of breathing, who looked as if he could not live many days, came to him, and asked him by what means he had been cured of his asthma? Dr Hume told him the particulars of his own case, and mentioned to him the means by which he had found relief. For two years after he heard nothing of this person, who was a stranger to him, and had seemed so bad that he did not imagine that he could have lived many days, and therefore had not even asked him who he was; but at the end of that period, a man seemingly in good health, and decently dressed, came to the sick and hurt office, and returned him thanks for his cure, which he assured him had been entirely brought about by the free use of honey.”

HONEY-Dew, a sweet saccharine substance found on the leaves of certain trees, of which bees are very fond, by the husbandmen supposed to fall from the heavens like common dew. This opinion hath been refuted, and the true origin of this and other saccharine dews shown by the Abbe Boissier de Sauvages, in a memoir read before the Society of Sciences at Montpellier. “Chance (says the Abbe) afforded me an opportunity of seeing this juice in its primitive form on the leaves of the holm oak: these leaves were covered with thousands of small round globules or drops, which, without touching one another, seemed to point out the pore from whence each of them had proceeded. My taste informed me that they were as sweet as honey: the honey-dew on a neighbouring bramble did not resemble the former, the drops having run together; owing either to the moisture of the air which had diluted them, or to the heat which had expanded them. The dew was become more viscous, and lay in large drops, covering the leaves; in this form it is usually seen.

“The oak had at this time two sorts of leaves; the old, which were strong and firm; and the new, which were tender, and newly come forth. The honey-dew was found only on the old leaves; though these were covered by the new ones, and by that means sheltered from any moisture that could fall from above. I observed the same on the old leaves of the bramble, while the new leaves were quite free from it. Another proof that this dew proceeds from the leaves is, that other neighbouring trees not furnished with a juice of this kind had no moisture on them; and particularly the mulberry, which is a very particular circumstance, for this juice is a deadly poison to silkworms. If this juice fell in the form of a dew, mist, or fog, it would wet all the leaves without distinction, and every part of the leaves, under as well as upper. Heat may have some share in its production: for though

Honey.

Honey. though the common heat promotes only the transpiration of the more volatile and fluid juices, a sultry heat, especially if reflected by clouds, may so far dilate the vessel as to produce a more viscous juice, such as the honey-dew.

"The second kind of honey-dew, which is the chief resource of bees after the spring-flowers and dew by transpiration on leaves are past, owes its origin to a small insect called a *vine-fretter*; the excrement ejected with some force by this insect makes a part of the most delicate honey known in nature (see *APHIS*). These vine-fretters rest during several months on the barks of particular trees, and extract their food by piercing that bark, without hurting or deforming the tree. These insects also cause the leaves of some trees to curl up, and produce galls upon others. They settle on branches that are a year old. The juice, at first perhaps hard and crabbed, becomes, in the bowels of this insect, equal in sweetness to the honey obtained from the flowers and leaves of vegetables; excepting that the flowers may communicate some of their essential oil to the honey, and this may give it a peculiar flavour, as happened to myself by planting a hedge of rosemary near my bees at Sauvages: the honey has tasted of it ever since, that shrub continuing long in flower.

"I have observed two species of vine-fretters, which live unsheltered on the bark of young branches; a larger and a lesser. The lesser species is of the colour of the bark upon which it feeds, generally green. It is chiefly distinguished by two horns, or straight, immovable, fleshy substances, which rise perpendicularly from the lower sides of the belly, one on each side. This is the species which live on the young branches of bramble and elder. The larger species is double the size of the other; is of a blackish colour; and instead of the horns which distinguish the other, have in the same part of the skin a small button, black and shining like jet.

"The buzzing of bees in a tuft of holm-oak, made me suspect that something very interesting brought so many of them thither. I knew that it was not the season for expecting honey-dew, nor was it the place where it is usually found; and was surprised to find the tuft of leaves and branches covered with drops which the bees collected with a humming noise. The form of the drops drew my attention, and led me to the following discovery. Instead of being round like drops which had fallen, each formed a small longish oval. I soon perceived from whence they proceeded. The leaves covered with these drops of honey were situated beneath a swarm of the larger black vine-fretters; and on observing these insects, I perceived them from time to time raise their bellies, at the extremity of which there then appeared a small drop of an amber colour, which they instantly ejected from them to the distance of some inches. I found by tasting some of these drops which I had caught on my hand, that it had the same flavour with what had before fallen on the leaves. I afterwards saw the smaller species of vine-fretters eject their drops in the same manner. This ejection is so far from being a matter of indifference to these insects themselves, that it seems to have been wisely instituted to procure cleanliness in each individual, as well as to preserve the whole swarm

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from destruction; for pressing as they do one upon another, they would otherwise soon be glued together, and rendered incapable of stirring. The drops thus spurted out fall upon the ground, if not intercepted by leaves or branches; and the spots they make on stones remain some time, unless washed off by rain. This is the only honey-dew that falls; and this never falls from a greater height than a branch where these insects can cluster.

"It is now easy to account for a phenomenon which formerly puzzled me greatly. Walking under a lime-tree in the king's garden at Paris, I felt my hand wetted with little drops, which I at first took for small rain. The tree indeed should have sheltered me from the rain, but I escaped it by going from under the tree. A seat placed near the tree shone with these drops. And being then unacquainted with any thing of this kind, except the honey-dew found on the leaves of some particular trees, I was at a loss to conceive how so glutinous a substance could fall from the leaves in such small drops: for I knew that rain could not overcome its natural attraction to the leaves till it became pretty large drops; but I have since found, that the lime-tree is very subject to these vine-fretters.

"Bees are not the only insects that feast upon this honey; ants are equally fond of it. Led into this opinion by what naturalists have said, I at first believed that the horns in the lesser species of these vine-fretters had in their extremity a liquor which the ants went in search of: but I soon discovered that what drew the ants after them came from elsewhere, both in the larger and lesser species, and that no liquor is discharged by the horns. There are two species of ants which search for these insects. The large black ants follow those which live on the oaks and chestnut; the lesser ants attend those on the elder. But as the ants are not, like the bees, provided with the means of sucking up fluids; they place themselves near the vine-fretters, in order to seize the drop the moment they see it appear upon the anus; and as the drop remains some time on the small vine-fretters before they can cast it off, the ants have leisure to catch it, and thereby prevent the bees from having any share: but the vine-fretters of the oak and chestnut being stronger, and perhaps more plentifully supplied with juice, dart the drop instantly, so that the larger ants get very little of it.

"The vine-fretters finding the greatest plenty of juice in trees about the middle of summer, afford also at that time the greatest quantity of honey; and this lessens as the season advances, so that in the autumn the bees prefer it to the flowers then in season. Though these insects pierce the tree to the sap in a thousand places, yet the trees do not seem to suffer at all from them, nor do the leaves lose the least of their verdure. The husbandman therefore acts injudiciously when he destroys them."

HONEY-Guide, a curious species of cuckow. See *CUCULUS*.

HONEY-Locust, or *Three-thorned Acacia*. See *GLADISTIA*.

HONEY-Suckle. See *LONICERA*.

HONFLEUR, a considerable sea-port town of France, in Upper Normandy, with a good harbour,

Honi
||
Honour.

and trade in bone-lace. It is seated on the river Seine, in E. Long. o. 8. N. Lat. 17. 49.

HONI SOIT QUI MAL Y PENSE, q. d. "Evil to him that thinks evil;" the motto of the most noble order of the knights of the Garter. See GARTER.

HONITON, a very pleasant market and borough town in Devonshire, situated 156 miles W. of London, and 16 east of Exeter. It consists of about 400 houses; and has one church on a hill full half a mile from the town, and a chapel and free grammar-school in the town. It is well paved and lighted, and lakes of water run through it. This place has suffered by fires greatly in 1747 and 1765. The market is on Saturday, and one fair in July: its manufactures are serge, and rich bone-lace and edgings. It was a chartered corporation by James II. but reverted to its old constitution on the revolution, and is now governed by a portreeve who is chosen annually. It first returned members the 28th Edw. I.

HONORIACI, in antiquity, an order of soldiery under the eastern empire, who introduced the Goths, Vandals, Alani, Suevi, &c. into Spain. Didymus and Verinianus, two brothers, had, with great vigilance and valour, defended the passages of the Pyreneans against the Barbarians for some time, at their own expence; but being at length killed, the emperor Constantius appointed the *honoriaci* to defend those passages, who, not contented to lay them open to all the nations of the north then ravaging the Gauls, joined themselves to them.

HONOUR, a testimony of esteem or submission, expressed by words, actions, and an exterior behaviour, by which we make known the veneration and respect we entertain for any one on account of his dignity or merit. The word *honour* is also used in general for the esteem due to virtue, glory, and reputation. It is also used for *virtue* and *probity* themselves, and for an exactness in performing whatever we have promised; and in this last sense we use the term, *a man of honour*. But *honour* is more particularly applied to two different kinds of virtue; bravery in men, and chastity in women.—Virtue and Honour were deified among the ancient Greeks and Romans, and had a joint temple consecrated to them at Rome: but afterwards each of them had separate temples, which were so placed, that no one could enter the temple of Honour without passing through that of Virtue; by which the Romans were continually put in mind, that virtue is the only direct path to true glory. Plutarch tells us, that the Romans, contrary to their usual custom, sacrificed to Honour uncovered; perhaps to denote, that wherever honour is, it wants no covering, but shows itself openly to the world.

The Spanish historians relate a memorable instance of honour and regard to truth. A Spanish cavalier in a sudden quarrel slew a Moorish gentleman, and fled. His pursuers soon lost sight of him, for he had unperceived thrown himself over a garden wall. The owner, a Moor, happening to be in his garden, was addressed by the Spaniard on his knees, who acquainted him with his case, and implored concealment. "Eat this," said the Moor (giving him half a peach), "you now know that you may confide in my protection." He then locked him up in his garden apartment, telling him as soon as it was night he would provide for his

escape to a place of greater safety. The Moor then went into his house, where he had but just seated himself, when a great crowd, with loud lamentations, came to his gate, bringing the corpse of his son, who had just been killed by a Spaniard. When the first shock of surprise was a little over, he learnt from the description given, that the fatal deed was done by the very person then in his power. He mentioned this to no one; but as soon as it was dark retired to his garden, as if to grieve alone, giving orders that none should follow him. Then accosting the Spaniard, he said, "Christian, the person you have killed is my son, his body is now in my house. You ought to suffer; but you have eaten with me, and I have given you my faith, which must not be broken." He then led the astonished Spaniard to his stables, mounted him on one of his fleetest horses, and said, "Fly far while the night can cover you; you will be safe in the morning. You are indeed guilty of my son's blood: but God is just and good; and I thank him I am innocent of yours, and that my faith given is preserved."

This point of honour is most religiously observed by the Arabs and Saracens, from whom it was adopted by the Moors of Africa, and by them was brought into Spain. The following instance of Spanish honour may still dwell in the memory of many living, and deserves to be handed down to the latest posterity. In the year 1746, when we were in hot war with Spain, the Elizabeth of London, captain William Edwards, coming through the Gulph from Jamaica, richly laden, met with a most violent storm, in which the ship sprung a leak, that obliged them, for the saving of their lives, to run into the Havannah, a Spanish port. The captain went on shore, and directly waited on the governor, told the occasion of his putting in, and that he surrendered the ship as a prize, and himself and his men as prisoners of war, only requesting good quarter. "No, Sir," replied the Spanish governor, "if we had taken you in fair war at sea, or approaching our coast with hostile intentions, your ship would then have been a prize, and your people prisoners; but when, distressed by a tempest, you come into our ports for the safety of your lives, we, the enemies, being men, are bound as such by the laws of humanity to afford relief to distressed men who ask it of us. We cannot even against our enemies take advantage of an act of God. You have leave therefore to unload your ship, if that be necessary, to stop the leak; you may refit her here, and traffic so far as shall be necessary to pay the charges; you may then depart, and I will give you a pass to be in force till you are beyond Bermuda: if after that you are taken, you will then be a lawful prize; but now you are only a stranger, and have a stranger's right to safety and protection." The ship accordingly departed, and arrived safe in London.

A remarkable instance of the like honour is recorded of a poor unenlightened African negro, in Captain Snelgrave's account of his voyage to Guinea. A New England sloop, trading there in 1752, left a second mate, William Murray, sick on shore, and sailed without him. Murray was at the house of a black named Cudjoe, with whom he had contracted an acquaintance during their trade. He recovered; and the sloop being gone, he continued with his black friend till some other opportunity should offer of his getting home.

In

Honour. In the mean time a Dutch ship came into the road, and some of the blacks coming on board her, were treacherously seized and carried off as their slaves. The relations and friends, transported with sudden rage, ran into the house of Cudjoe, to take revenge by killing Murray. Cudjoe stooped them at the door, and demanded what they wanted. "The white men," said they, "have carried away our brothers and sons, and we will kill all white men. Give us the white man you have in your house, for we will kill him." "Nay," said Cudjoe, "the white men that carried away your relations are bad men, kill them when you can take them; but this white man is a good man, and you must not kill him." "... "But he is a white man," they cried; "and the white men are all bad men, we will kill them all." "Nay," says he, "you must not kill a man that has done no harm, only for being white. This man is my friend, my house is his post, I am his soldier, and must fight for him; you must kill me before you can kill him. What good man will ever come again under my roof, if I let my floor be stained with a good man's blood?" The negroes seeing his resolution, and being convinced by his discourse that they were wrong, went away ashamed. In a few days Murray ventured abroad again with his friend Cudjoe, when several of them took him by the hand, and told him, "They were glad they had not killed him; for as he was a good (meaning innocent) man, their God would have been very angry, and would have spoiled their fishing."

HONOUR, in the *beau monde*, has a meaning materially different from the above, and which it is easier to illustrate than define. It is, however, subject to a system of rules, called the *law of honour*, constructed by people of fashion, calculated to facilitate their intercourse with one another, and for no other purpose. Consequently, nothing is considered as inconsistent with honour, but what tends to incommode this intercourse. Hence, as Archdeacon Paley states the matter, profaneness, neglect of public worship or private devotion, cruelty to servants, rigorous treatment of tenants or other dependants, want of charity to the poor, injuries done to tradesmen by insolvency or delay of payment, with numberless examples of the same kind, are accounted no breaches of honour; because a man is not a less agreeable companion for these vices, nor the worse to deal with in those concerns which are usually transacted between one gentleman and another. —Again, the *law of honour* being constituted by men occupied in the pursuit of pleasure, and for the mutual convenience of such men, will be found, as might be expected from the character and design of the law-makers, to be, in most instances, favourable to the licentious indulgence of the natural passions. Thus it allows of fornication, adultery, drunkenness, prodigality, duelling, and revenge in the extreme; and lays no stress upon the virtues opposite to these.

HONOUR or Rank — The degrees of honour which are observed in Britain may be comprehended under these two heads, viz. *nobiles majores*, and *nobiles minores*. Those included under the first rank are, archbishops, dukes, marquises, earls, viscounts, bishops, and barons; which are all distinguished by the respective ornaments of their

escutcheons: and those of the last are baronets, knights, esquires, and gentlemen. There are some authors who will have baronets to be the last under the first rank; and their reason is, because their honour is hereditary, and by patent, as that of the nobility. See **COMMONALTY and NOBILITY**.

HONOURS of War, in a siege, is, when a governor, having made a long and vigorous defence, is at last obliged to surrender the place to the enemy for want of men and provisions, and makes it one of his principal articles to march out with the *honours of war*; that is, with shouldered arms, drums beating, colours flying, and all their baggage, &c.

Military Honours. All armies salute crowned heads in the most respectful manner, drums beating a march, colours and standards dropping, and officers saluting. Their guards pay no compliment, except to the princes of the blood; and even that by courtesy, in the absence of the crowned head.

To the commander in chief the whole line turns out without arms, and the camp-guards beat a march, and salute. To generals of horse and foot, they beat a march, and salute. Lieutenant-generals of ditto, three ruffs, and salute. Major-generals of ditto, two ruffs, and salute. Brigadiers of ditto, rested arms, one ruff, and salute. Colonels of ditto, rested arms, and no beating. Centinels rest their arms to all field-officers, and shoulder to every officer. All governors, that are not general officers, shall, in all places where they are governors, have one ruff, with rested arms; but for those who have no commission as governors, no drum shall beat. Lieutenant-governors shall have the main-guard turned out to them with shouldered arms.

Prussian Honours of War, chiefly imitated by most powers in Europe, are,

To the king, all guards beat the march, and all officers salute. Field-marsals received with the march, and saluted in the king's absence. General of horse or foot, four ruffs; but if he commands in chief, a march and salute. Lieutenant-generals of horse or foot, commanding or not, guards beat three ruffs. Major-generals of horse and foot, two ruffs. Officers, when their guards are under arms, and a general makes a signal, must rest to him, but not beat; when not got under arms, and a signal made, only stand by their arms. Village-guards go under arms only to the king, field-marsals, generals of horse and foot, and to the general of the day. Generals guards go under arms only to the king, field-marsals, and the general over whom they mount. Commanding officers of regiments and battalions, their own quarter and rear guards to turn out; but not to other field-officers, unless they are of the day. Generals in foreign service, the same.

HONOURS paid by Centinels. Field-marsals; two centinels with ordered fire-locks, at their tent or quarters. Generals of horse or foot; two centinels, one, with his firelock shouldered, the other ordered. Lieutenant-generals; one, with firelock ordered. Major-generals; one, with firelock shouldered.

The first battalion of guards go under arms to the king only; not to stand by, nor draw up in the rear of their arms to any other; nor to give centinels to foreigners. Second and third battalions draw up behind their arms to the princes, and to field-marsals;

Honour.

but when on grenadier-guards or out-posts, they turn out, as other guards do, to the officers of the day. They give one centinel with shouldered arms to the princes of the blood, and to field-marsals when they lie alone in garrison.

Court of Honour. See *Court of Chivalry*.

Fountain of Honour. The king is so styled, as being the source of honours, dignities, &c. See *PREROGATIVE*.

It is impossible that government can be maintained without a due subordination of rank; that the people may know and distinguish such as are set over them, in order to yield them their due respect and obedience; and also that the officers themselves, being encouraged by emulation and the hopes of superiority, may the better discharge their functions: and the law supposes, that no one can be so good a judge of their several merits and services as the king himself who employs them. It has therefore entrusted him with the sole power of conferring dignities and honours, in confidence that he will bestow them upon none but such as deserve them. And therefore all degrees of nobility, of knighthood, and other titles, are received by immediate grant from the crown: either expressed in writing, by writs or letters patent, as in the creation of peers and baronets; or by corporeal investiture, as in the creation of a simple knight.

From the same principle also arises the prerogative of erecting and disposing of offices: for honours and offices are in their nature convertible and synonymous. All offices under the crown carry in the eye of the law an honour along with them; because they imply a superiority of parts and abilities, being supposed to be always filled with those that are most able to execute them. And, on the other hand, all honours in their original had duties or offices annexed to them: an earl, *comes*, was the conservator or governor of a county; and a knight, *miles*, was bound to attend the king in his wars. For the same reason therefore that honours are in the disposal of the king, offices ought to be so likewise; and as the king may create new titles, so may he create new offices: but with this restriction, that he cannot create new offices with new fees annexed to them, nor annex new fees to old offices; for this would be a tax upon the subject, which cannot be imposed but by act of parliament. Wherefore, in 13 Hen. IV. a new office being created by the king's letters patent for measuring cloths, with a new fee for the same, the letters patent were, on account of the new fee, revoked and declared void in parliament.

Upon the same or a like reason, the king has also the prerogative of conferring privileges upon private persons. Such as granting place or precedence to any of his subjects, as shall seem good to his royal wisdom: or such as converting aliens, or persons born out of the king's dominions, into denizens; whereby some very considerable privileges of natural-born subjects are conferred upon them. Such also is the prerogative of erecting corporations; whereby a number of private persons are united and knit together, and enjoy many liberties, powers, and immunities in their politic capacity, which they were utterly incapable of in their natural.

Maids of Honour, are young ladies in the queen's household, whose office is to attend the queen when she goes abroad, &c. In England they are six in number, and their salary 300 l. *per annum* each.

HONOUR is particularly applied in our customs to the more noble kind of seignories or lordships, whereof other inferior lordships or manors hold or depend. As a manor consists of several tenements, services, customs, &c. so an honour contains divers manors, knights-fees, &c. It was also formerly called *beneficium* or *royal fee*, being always held of the king *in capite*.

Honour-Point, in heraldry, is that next above the centre of the escutcheon, dividing the upper part into two equal portions.

HONOURABLE, a title conferred on the younger sons of earls, the sons of viscounts and barons; as also on such persons as have the king's commission, and upon those who enjoy places of trust and honour.

HONOURARY, something done or conferred upon any one, to do him honour. See the article *HONOUR*.

Honourary is sometimes understood of a person who bears or possesses some post or title, only for the name's sake, without doing any thing of the functions belonging to it, or receiving any advantage from it: thus we say honourary counsellors, honourary fellows, &c.

Honourary is also used for a lawyer's fee, or a salary given to public professors in any art or science.

HOOD (Robin), a famous outlaw and deer-stealer, who chiefly harboured in Sherwood forest in Nottinghamshire. He was a man of family, which by his pedigree appears to have had some title to the earldom of Huntingdon; and played his pranks about the latter end of the 12th century. He was famous for archery, and for his treatment of all travellers who came in his way; levying contributions on the rich, and relieving the poor. Falling sick at last, and requiring to be blooded, he is said to have been betrayed and bled to death. He died in 1247; and was buried at Kirkstall in Yorkshire, then a Benedictine monastery, where his gravestone is still shown.

HOOD. See *CHAPERON* and *COWL*.

Hood, in falconry, is a piece of leather, wherewith the head of a hawk, falcon, or the like, is covered.

Hood Island, one of the *MARQUESAS Islands*, in the South Sea. It was discovered in April 1774 by captain Cook, who gave it that name from the person who first saw the land. It is the most northerly of the cluster, and lies in S. Lat. 9. 26. W. Long. 139. 13.

HOOF, the horny substance that covers the feet of divers animals, as oxen, horses, &c.

Hoof-bound, in farriery. See there, § xlii.

HOOF (Peter Cornelius Van), an eminent historian and poet, born at Amsterdam in 1581. He was lord of Muyden, judge of Goyland, and knight of the order of St Michael. He died at the Hague in 1647. He wrote, 1. An excellent history of the Netherlands, from the abdication of Charles V. to the year 1588. 2. Several Comedies, and other works. By these he acquired such reputation, that the Flemings considered him as the Homer and Tacitus of the Netherlands.

HOOGUES.

Honour
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Hoof.

Hooguest-
tratten
||
Hooke.

HOOGUESTRATTEN, a town of the Netherlands, in Dutch Brabant, and capital of a county of the same name. E. Long. 4. 41. N. Lat. 51. 25.

HOOK, in angling, &c. See *FISHING-book*.

HOOKS, in building, &c. are of various sorts; some of iron and others of brass, viz. 1. Armour-hooks, which are generally of brass, and are to lay up arms upon, as guns, muskets, half-pikes, pikes, javelins, &c. 2. Casement-hooks. 3. Chimney-hooks, which are made both of brass and iron, and of different fashions: their use is to set the tongs and fire-shovel against. 4. Curtain-hooks. 5. Hooks for doors, gates, &c. 6. Double line-hooks, large and small. 7. Single line-hooks, large and small. 8. Tenter-hooks of various sorts. See *TENTER*.

HOOKS of a ship, are all those forked timbers which are placed directly upon the keel, as well in her run as in her rake.

Can-HOOKS, those which being made fast to the end of a rope with a noose (like that which brewers use to sling or carry their barrels on), are made use of for slings.

Foot-HOOKS, in a ship, the same with futtocks.

Loof-HOOKS, a tackle with two hooks; one to hitch into a cringle of the main or fore-sail, in the bolt-rope at the leech of the sail by the clew; and the other is to hitch into a strap, which is spliced to the cheff-tree.

Their use is to pull down the sail, and succour the tackles in a large sail and stiff gale, that all the stress may not bear upon the tack. It is also used when the tack is to be seized more secure, and to take off or put on a bonnet or drabler.

HOOK Pins, in architecture, are taper iron pins, only with a hook-head, to pin the frame of a roof or floor together.

HOOKAH, among the Arabs and other nations of the East, is a pipe of a singular and complicated construction, through which tobacco is smoked: out of a small vessel of a globular form, and nearly full of water, issue two tubes, one perpendicularly, on which is placed the tobacco; the other obliquely from the side of the vessel, and to that the person who smokes applies his mouth; the smoke by this means being drawn through water, is cooled in its passage and rendered more grateful: one takes a whiff, draws up a large quantity of smoke, puffs it out of his nose and mouth in an immense cloud, and passes the hookah to his neighbour; and thus it goes round the whole circle.—The hookah is known and used throughout the east; but in those parts of it where the refinements of life prevail greatly, every one has his hookah sacred to himself; and it is frequently an implement of a very costly nature, being of silver, and set with precious stones: in the better kind, that tube which is applied to the mouth is very long and pliant; and for that reason is termed the snake: people who use it in a luxurious manner, fill the vessel through which the smoke is drawn with rose water, and it thereby receives some of the fragrant quality of that fluid.

HOOKE (Robert), a very eminent English mathematician and philosopher, was the son of Mr John Hooke minister of Freshwater in the Isle of Wight, where he was born in 1635. He very early discovered a genius for mechanics, by making curious toys with great art and dexterity. He was educated under Dr

Busbby in Westminster school; where he not only acquired a competent share of Greek and Latin, together with an insight into Hebrew and some other Oriental languages, but also made himself master of a good part of Euclid's elements. About the year 1653 he went to Christ-church in Oxford, and in 1655 was introduced to the Philosophical Society there; where, discovering his mechanic genius, he was first employed to assist Dr Willis in his operations in chemistry, and afterwards recommended to the honourable Robert Boyle, Esq; whom he served several years in the same capacity. He was also instructed in astronomy about this time by Dr Seth Ward, Savilian professor of that science; and from henceforward distinguished himself by many noble inventions and improvements of the mechanic kind. He invented several astronomical instruments, for making observations both at sea and land; and was particularly serviceable to Mr Boyle in completing the invention of the air-pump. Sir John Cutler having founded a mechanic school in 1664, he settled an annual stipend on Mr Hooke for life, intrusting the president, council, and fellows, of the Royal Society to direct him with respect to the number and subject of his lectures; and on the 11th of January 1664-5, he was elected by that society curator of experiments for life, with an additional salary. In 1666 he produced to the Royal Society a model for rebuilding the city of London destroyed by fire, with which the society was well pleased; and the lord mayor and aldermen preferred it to that of the city surveyor, though it happened not to be carried into execution. It is said, by one part of this model of Mr Hooke's, it was designed to have all the chief streets, as from Leaden-hall to Newgate, and the like, to lie in exact straight lines, and all the other cross-streets turning out of them at right angles, with all the churches, public buildings, markets, &c. in proper and convenient places. The rebuilding of the city according to the act of parliament requiring an able person to set out the ground to the proprietors, Mr Hooke was appointed one of the surveyors; in which employment he got most part of his estate, as appeared pretty evident from a large iron chest of money found after his death, locked down with a key in it, and a date of the time, which showed it to have been so shut up above 30 years.—Mr Oldenburgh, secretary to the Royal Society, dying in 1677, Mr Hooke was appointed to supply his place, and began to take minutes at the meeting in October, but did not publish the Transactions. In the beginning of the year 1687, his brother's daughter, Mrs Grace Hooke, who had lived with him several years, died; and he was so affected with grief at her death, that he hardly ever recovered it, but was observed from that time to become less active, more melancholy, and, if that could be, more cynical than ever. At the same time, a chancery suit in which he was concerned with Sir John Cutler, on account of his salary for reading the Cutlerian lectures, made him very uneasy, and increased his disorder. In 1691, he was employed in forming the plan of the hospital near Hoxton, founded by Robert Ask alderman of London, who appointed archbishop Tillotson one of his executors; and in December the same year, Hooke was created doctor of physic, by a warrant from that

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Hooke. prelate. In July 1696, the chancery suit with Sir John Cutler was determined in his favour, to his inexpressible satisfaction. His joy on that occasion was found in his diary thus expressed; DOMSHLGISSA: that is, *Deo, Optimo, Maximo, sit honor, laus, gloria, in secula seculorum, Amen.* "I was born on this day of July 1635, and God hath given me a new birth: may I never forget his mercies to me! while he gives me breath may I praise him!"—In the same year 1696, an order was granted to him for repeating most of his experiments at the expence of the Royal Society, upon a promise of his finishing the accounts, observations, and deductions from them, and of perfecting the description of all the instruments contrived by him; but his increasing illness and general decay rendered him unable to perform it. He continued some years in this wasting condition; and thus languishing till he was quite emaciated, he died March 3d, 1702, at his lodgings in Gresham college, and was buried in St Helen's church, Bishopsgate street; his corpse being attended by all the members of the Royal Society then in London.—As to Mr Hooke's character; it is not in all respects one of the most amiable. He made but a despicable figure as to his person, being short of stature, very crooked, pale, lean, and of a meagre aspect, with dark brown hair, very long, and hanging over his face uncut and lank. Suitable to his person, his temper was penurious, melancholy, mistrustful: and, though possessed of great philosophical knowledge, he had so much ambition, that he would be thought the only man who could invent or discover; and thus frequently laid claim to the inventions and discoveries of others, while he boasted of many of his own which he never communicated. In the religious part of his character he was so far exemplary, that he always expressed a great veneration for the Deity; and seldom received any remarkable benefit in life, or made any considerable discovery in nature, or invented any useful contrivance, or found out any difficult problem, without setting down his acknowledgment to God, as many places in his diary plainly show. He frequently studied the sacred writings in the original; for he was acquainted with the ancient languages, as well as with all parts of the mathematics.—He wrote, 1. *Lecturiones Cutlerianæ*, 2. *Micrographia*, or Descriptions of minute bodies made by magnifying glasses. 3. A description of helioscopes. 4. A description of some mechanical improvements of lamps and water-posses, quarto. 5. Philosophical collections. After his death were published, 6. Posthumous work collected from his papers by Richard Waller secretary to the Royal Society.

HOOKE (Nathaniel), author of an esteemed Roman history and other performances. Of this learned gentleman the earliest particulars to be met with are furnished by himself, in the following modest but manly address to the Earl of Oxford, dated Oct. 7. 1722: "My Lord, the first time I had the honour to wait upon your lordship since your coming to London, your lordship had the goodness to ask me, what way of life I was then engaged in; a certain *mauvaise honte* hindered me at that time from giving a direct answer. The truth is, my lord, I cannot be said at present to be in any form of life, but rather to live extempore. The late epidemical distemper seized me,

I endeavoured to be rich, imagined for a while that I was, and am in some measure happy to find myself at this instant but just worth nothing. If your lordship, or any of your numerous friends, have need of a servant, with the bare qualifications of being able to read and write, and to be honest, I shall gladly undertake any employments your lordship shall not think me unworthy of. I have been taught, my lord, that neither a man's natural pride, nor his self-love, is an equal judge of what is fit for him; and I shall endeavour to remember, that it is not the short part we act, but the manner of our performance, which gains or loses us the applause of Him who is finally to decide of all human actions. My lord, I am just now employed in translating from the French, a History of the Life of the late archbishop of Cambray; and I was thinking to beg the honour of your lordship's name to protect a work which will have so much need of it. The original is not yet published. 'Tis written by the author of the 'Discourse upon Epic Poetry,' in the new edition of *Telemaque*. As there are some passages in the book of a particular nature, I dare not solicit your lordship to grant me the favour I have mentioned, till you first have perused it. The whole is short, and pretty fairly transcribed. If your lordship could find a spare hour to look it over, I would wait upon your lordship with it, as it may possibly be no unpleasing entertainment. I should humbly ask your lordship's pardon for so long an address in a season of so much business. But when should I be able to find a time in which your lordship's goodness is not employed? I am, with perfect respect and duty, my lord, your lordship's most obliged, most faithful, and most obedient humble servant, **NATHANIEL HOOKE.**" The translation here spoken of was afterwards printed in 12mo, 1723. From this period till his death, Mr Hooke enjoyed the confidence and patronage of men not less distinguished by virtue than by titles. In 17... he published a translation of Ramsay's *Travels of Cyrus*, in 4to; in 1733 he revised a translation of "The History of the Conquest of Mexico by the Spaniards, by Thomas Townsend, Esq;" printed in 2 vols 8vo; and in the same year he published, in 4to, the first volume of "The Roman History, from the building of Rome to the ruin of the Commonwealth; illustrated with maps and other plates." In the dedication to this volume, Mr Hooke took the opportunity of "publicly testifying his just esteem for a worthy friend, to whom he had been long and much obliged," by telling Mr Pope, that the displaying of his name at the head of those sheets was "like the hanging out a splendid sign, to catch the traveller's eye, and entice him to make trial of the entertainment the place affords. But," he proceeds, "when I can write under my sign, that Mr Pope has been here, and was content, who will question the goodness of the house?" The volume is introduced by "Remarks on the History of the Seven Roman Kings, occasioned by Sir Isaac Newton's objections to the supposed 244 years duration of the royal state of Rome." His nervous pen was next employed in digesting "An Account of the conduct of the Dowager-duchess of Marlborough, from her first coming to Court to the year 1710, in a Letter from herself to Lord —, in 1742." 8vo. His reward on this

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Hooker. this occasion was considerable; and the reputation he acquired by the performance much greater. The circumstances of this transaction are thus related by Dr Maty, in his *Memoires of Lord Chesterfield*, vol. i. p. 116. "The relict of the great duke of Marlborough, being desirous of submitting to posterity her political conduct, as well as her lord's, applied to the earl of Chesterfield for a proper person to receive her information, and put the memoirs of her life into a proper dress. Mr Hooke was recommended by him for that purpose. He accordingly waited upon the duchess, while she was still in bed, oppressed by the infirmities of age. But, knowing who he was, she immediately got herself lifted up, and continued speaking during six hours. She delivered to him, without any notes, her account, in the most lively as well as the most connected manner. As she was not tired herself, she would have continued longer the business of this first sitting, had not she perceived that Mr Hooke was quite exhausted, and wanted refreshment as well as rest. So eager was she for the completion of the work, that she insisted upon Mr Hooke's not leaving her house till he had finished it. This was done in a short time; and her Grace was so well pleased with the performance, that she complimented the author with a present of 5000*l.* a sum which far exceeded his expectations. As soon as he was free, and permitted to quit the house of his benefactress, he hastened to the earl, to thank him for his favour, and communicated to him his good fortune. The perturbation of mind he was under, occasioned by the strong sense of his obligation, plainly appeared in his stammering out his acknowledgments: and he, who had succeeded so well as the interpreter of her Grace's sentiments, could scarcely utter his own." The second volume of his *Roman history* appeared in 1745; when Mr Hooke embraced the fair occasion of congratulating his worthy friend the earl of Marchmont, on "that true glory, the consenting praise of the honest and the wise," which his lordship had so early acquired. To the second volume Mr Hooke added "The Capitoline Marbles, or Consular Calendars, an ancient Monument accidentally discovered at Rome in the year 1545, during the Pontificate of Paul III." In 1758 Mr Hooke published "Observations on, I. The Answer of M. l'Abbe de Vertot to the late earl of Stanhope's Inquiry concerning the Senate of ancient Rome: dated December, 1719. II. A Dissertation upon the Constitution of the Roman Senate, by a Gentleman: published in 1743. III. A Treatise on the Roman Senate, by Dr Conyers Middleton: published in 1747. IV. An Essay on the Roman Senate, by Dr Thomas Chapman: published in 1750;" which he with great propriety inscribed to Mr Speaker Onslow. The third volume of Mr Hooke's *Roman History*, to the end of the Gallic war, was printed under his inspection before his last illness; but did not appear till after his death, which happened in 1764. The fourth and last volume was published in 1771. Mr Hooke left two sons; of whom one is a divine of the church of England; the other, a doctor of the Sorbonne, and professor of astronomy in that illustrious seminary.

HOOKE (John), *alias* VOWELL, was born in Exeter, about the year 1524, the second son of Robert Hooker, who in 1529 was mayor of that city.

He was instructed in grammar learning by Dr Moreman, vicar of Menhinit in Cornwall, and thence removed to Oxford; but to what college is uncertain. Having left the university, he travelled to Germany, and resided some time at Cologne, where he kept exercises in law, and probably graduated. Thence he went to Strasburg, where he studied divinity under the famous Peter Martyr. He now returned to England, and soon after visited France, intending to proceed to Spain and Italy; but was prevented by a declaration of war. Returning therefore again to England, he fixed his residence in his native city, where, having married, he was in 1554 elected chamberlain, being the first person who held that office, and in 1571 represented his fellow-citizens in parliament. He died in the year 1601, and was buried in the cathedral church at Exeter. He wrote, among other works, 1. Order and usage of keeping of parliaments in Ireland. 2. The events of comets or blazing stars, made upon the sight of the comet Pagonia, which appeared in November and December 1577. 3. An addition to the chronicles of Ireland from 1546 to 1568; in the second volume of Holinshed's chronicle. 4. A description of the city of Exeter, and of the fondrie assaults given to the same; Holinsh. chron. vol. iii. 5. A book of ensigns. 6. Translation of the history of the conquest of Ireland from the Latin of Giraldus Cambrensis; in Holinsh. chron. vol. ii. 7. *Synopsis chorographica*, or an historical record of the province of Devon; never printed.

HOOKE (Richard), a learned divine, was born at Heavy-tree, near Exeter, in the year 1553. Some of his ancestors were mayors of that city, and he was nephew to *John HOOKE* the historian. By this uncle he was first supported at the university of Oxford, with the addition of a small pension from Dr Jewel, bishop of Salisbury, who in 1561 got him admitted one of the clerks of Corpus-Christi college. In 1573 he was elected scholar. In 1577 he took the degree of master of arts, and was admitted fellow the same year. In July 1579, he was appointed deputy professor of the Hebrew language. In October, in the same year, he was for some trivial misdemeanor expelled the college, but was immediately restored. In 1581 he took orders; and, being appointed to preach at St Paul's cross, he came to London, where he was unfortunately drawn into a marriage with Joan Churchman, the termagant daughter of his hostess. Having thus lost his fellowship, he continued in the utmost distress till the year 1584, when he was presented by John Cheny, Esq; to the rectory of Drayton-Beaucham in Buckinghamshire. In this retirement he was visited by Mr Edwin Sandys, and Mr George Cranmer, his former pupils. They found him, with a Horace in his hand, tending some sheep in the common field, his servant having been ordered home by his sweet Xantippe. They attended him to his house; but were soon deprived of his company by an order from his wife Joan, for him to come and rock the cradle. Mr Sandys's representation to his father, of his tutor's situation, procured him the mastership of the Temple. In this situation he met with considerable molestation from one Travers, lecturer of the Temple, and a bigoted Puritan, who in the afternoon endeavoured to confute the doctrine delivered in the morning. From this disagreeable situation

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tion he solicited archbishop Whitgift to remove him to some country retirement, where he might prosecute his studies in tranquillity. Accordingly, in 1591, he obtained the rectory of Boscomb in Wiltshire, together with a prebend in the church of Salisbury, of which he was also made sub-dean. In 1594 he was presented to the rectory of Bishopsbourne in Kent, where he died in the year 1600. He was buried in his own parish-church, where a monument was erected to his memory by William Cooper, Esq. He was a meek, pious, and learned divine. He wrote, 1. Ecclesiastical politie, in eight books, fol. 2. A discourse of justification, &c. with two other sermons, Oxford 1612, 4to. Also several other sermons printed with the Ecclesiastical Politie.

HOOKER, in naval architecture, a vessel much used by the Dutch, built like a pink, but rigged and masted like a hoy.—Hookers will lie nearer a wind than vessels with cross-sails can do. They are from 50 to 200 tons burden, and with a few hands will sail to the East Indies.

HOOP, a piece of pliant wood, or iron, bent into a circular form, commonly used for securing casks, &c.

Driving a Hoop, a boyish exercise, of good effect in rendering the limbs pliable, and for strengthening the nerves.

HOOPER (John), bishop of Worcester, and a martyr in the Protestant cause, was born in Somersetshire, and educated at Oxford, probably in Merton-college. In 1518 he took the degree of bachelor of arts, and afterwards became a Cistercian monk; but at length, disliking his fraternity, he returned to Oxford, and there became infected with Lutheranism. In 1539 he was made chaplain and house-steward to Sir John Arundel, who afterwards suffered with the protector in the reign of Edward VI. But *that very catholic knight*, as Wood calls him, discovering his chaplain to be a heretic, Hooper was obliged to leave the kingdom. After continuing some time in France, he returned to England, and lived with a gentleman called *Seintlow*: but being again discovered, he escaped in the habit of a sailor to Ireland; thence embarked for the continent, and fixed his abode in Switzerland.—When king Edward came to the crown, Mr Hooper returned once more to his native country. In 1550, by his old patron Sir John Arundel's interest with the earl of Warwick, he was consecrated bishop of Gloucester; and in 1552 was nominated to the see of Worcester, which he held in *commendam* with the former. But queen Mary had scarce ascended the throne, before his lordship was imprisoned, tried, and, not choosing to recant, condemned to the flames. He suffered this terrible death at Gloucester, on the 9th of February 1554, being then near 60 years of age. He was an avowed enemy to the church of Rome, and not perfectly reconciled to what he thought remnants of Popery in the church of England. In the former reign he had been one of Bonner's accusers, which sufficiently accounts for his being one of queen Mary's first sacrifices to the holy see. He was a person of good parts and learning, as may be found in Fox's Book of Martyrs.

HOOPER (George), a very learned writer, bishop of Bath and Wells, was well skilled in mathematics, and N^o 157.

in the eastern learning and languages. He sat in those sees above 24 years, often refused a seat in the privy council, and could not be prevailed upon to accept of the bishopric of London on the death of bishop Compton. He wrote, 1. The church of England free from the imputation of Popery. 2. A discourse concerning Lent. 3. New danger of Presbytery. 4. An inquiry into the state of the ancient measures. 5. *De Valentinianorum hæresi conjectura*. 6. Several sermons; and other works.

HOOPING-COUGH. See (the Index subjoined to) MEDICINE.

HOOPOE. See UPUPA.

HOORNBECK (John), professor of divinity in the universities of Leyden and Utrecht, was born at Haerlem in 1617. He understood the Latin, Hebrew, Chaldaic, Syriac, Rabbinical, Dutch, German, English, French, and Italian languages; and published many works, among which are, 1. A refutation of Socinianism, in 3 vols 4to. 2. A treatise for the conviction of the Jews. 3. Of the conversion of the Heathens. 4. Theological institutions, &c. which are written in Latin. Mr Bayle represents him as a complete model of a good pastor and divinity professor.

HOP, in botany. See HUMULUS.

HOPS were first brought into England from the Netherlands in the year 1524. They are first mentioned in the English statute-book in the year 1552, viz. in the 5 and 6 of Edw. VI. cap. 5. And by an act of parliament of the first year of king James I. anno 1603, cap. 18. it appears, that hops were then produced in abundance in England.

The hop being a plant of great importance in the article of brewing, we shall consider what relates to the culture and management of it, under the following heads:

Of Soil. As for the choice of their hop-grounds, they esteem the richest and strongest grounds the most proper; and if it be rocky within two or three feet of the surface the hops will prosper well; but they will by no means thrive on a stiff clay or spongy wet land.

The Kentish planters account new land best for hops; they plant their hop-gardens with apple trees at a large distance, and with cherry-trees between; and when the land hath done its best for hops, which they reckon it will in about 10 years, the trees may begin to bear. The cherry trees last about 30 years, and by that time the apple-trees are large, they cut down the cherry-trees.

The Essex planters account a moory land the most proper for hops.

As to the situation of a hop-ground, one that inclines to the south or west is the most eligible; but if it be exposed to the northeast or southwest winds, there should be a shelter of some trees at a distance, because the northeast winds are apt to nip the tender shoots in the spring; and the southwest winds frequently break and blow down the poles at the latter end of the summer, and very much endanger the hops.

In the winter-time provide your soil and manure for the hop-ground against the following spring.

If the dung be rotten, mix it with two or three parts of common earth, and let it incorporate together till

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Hops.

Hops. you have occasion to make use of it in making your hop hills; but if it be new dung, then let it be mixed as before till the spring in the next year, for new dung is very injurious to hops.

Dung of all sorts was formerly more commonly made use of than it is now, especially when rotted and turned to mould, and they who have no other manure must use it; which if they do, cows or hogs-dung, or human ordure mixed with mud, may be a proper compost, because hops delight most in a manure that is cool and moist.

Planting. Hops require to be planted in a situation so open, as that the air may freely pass round and between them, to dry up and dissipate the moisture, whereby they will not be so subject to fire-blasts, which often destroy the middles of large plantations, while the outsidings remain unhurt.

As for the preparation of the ground for planting, it should, in the preceding winter, be plowed and harrowed even; and then lay upon it in heaps a good quantity of fresh rich earth, or well-rotted dung and earth mixed together, sufficient to put half a bushel in every hole to plant the hops in, unless the natural ground be very fresh and good.

The hills where the hops are to be planted should be eight or nine feet asunder, that the air may freely pass between them; for in close plantations, they are very subject to what the hop-planters call the *fire-blast*.

If the ground is intended to be ploughed with horses between the hills, it will be best to plant them in squares chequerwise; but if the ground is so small that it be may done with the breast-plough or spade, the holes should be ranged in a quincunx form. Which way soever you make use of, a stake should be stuck down at all the places where the hills are to be made.

Persons ought to be very curious in the choice of the plants as to the kind of hop; for if the hop-garden be planted with a mixture of several sorts of hops that ripen at several times, it will cause a great deal of trouble, and be a great detriment to the owner.

The two best sorts are the white and the grey bind; the latter is a large square hop, more hardy, and is the more plentiful bearer, and ripens later than the former.

There is also another sort of the white bind, which ripens a week or ten days before the common; but this is tenderer, and a less plentiful bearer; but it has this advantage, that it comes first to market.

But if three grounds, or three distant parts of one ground, be planted with these three sorts, there will be this conveniency, that they may be picked successively as they become ripe. The sets should be five or six inches long, with three or more joints or buds on them.

If there be a sort of hop you value, and would increase plants and sets from, the superfluous binds may be laid down when the hops are tied, cutting off the tops, and burying them in the hill; or when the hops are dressed, all the cuttings may be saved; for almost every part will grow, and become a good set the next spring.

As to the seasons of planting hops, the Kentish planters best approve the months of October and March, both which sometimes succeed very well; but the sets are not to be had in October, unless from

Hops. some ground that is to be destroyed; and likewise there is some danger that the sets may be rotted, if the winter prove very wet; therefore the most usual time of procuring them is in March, when the hops are cut and dressed.

As to the manner of planting the sets, there should be five good sets planted in every hill, one in the middle, and the rest round about sloping, the tops meeting at the centre; they must stand even with the surface of the ground; let them be pressed close with the hand, and covered with fine earth, and a stick should be placed on each side the hill to secure it.

The ground being thus planted, all that is to be done more during that summer, is to keep the hills clear from weeds, and to dig up the ground about the month of May, and to raise a small hill round about the plants. In June you must twist the young bind or branches together into a bunch or knot; for if they are tied up to small poles the first year, in order to have a few hops from them, it will not countervail the weakening of the plants.

A mixture of compost or dung being prepared for your hop ground, the best time for laying it on, if the weather prove dry, is about Michaelmas, that the wheels of the dung cart may not injure the hops, nor furrow the ground: if this be not done then, you must be obliged to wait till the frost has hardened the ground, so as to bear the dung cart; and this is also the time to carry on your new poles, to recruit those that are decayed, and to be cast out every year.

If you have good store of dung, the best way will be to spread it in the alleys all over the ground, and to dig it in the winter following. The quantity they will require will be 40 loads to an acre, reckoning about 30 bushels to the load.

If you have not dung enough to cover all the ground in one year, you may lay it on one part one year, and on the rest in another, or a third; for there is no occasion to dung the ground after this manner oftener than once in three years.

Those who have but a small quantity of dung, usually content themselves with laying on about twenty loads upon an acre every year; this they lay only on the hills, either about November, or in the spring; which last some account the best time, when the hops are dressed, to cover them after they are cut; but if it be done at this time, the compost or dung ought to be very well rotted and fine.

Dressing. As to the dressing of the hops, when the hop-ground is dug in January or February, the earth about the hills, and very near them, ought to be taken away with a spade, that you may come the more conveniently at the stock to cut it.

About the end of February, if the hops were planted the spring before, or if the ground be weak, they ought to be dressed in dry weather; but else, if the ground be strong and in perfection, the middle of March will be a good time; and the latter end of March, if it be apt to produce over-rank binds, or the beginning of April may be soon enough.

Then having with an iron picker cleared away all the earth out of the hills, so as to clear the stock to the principal roots, with a sharp knife you must cut off all the shoots which grew up with the binds the last year; and also all the young suckers, that none be left to run

Hops. in the alley, and weaken the hill. It will be proper to cut one part of the stock lower than the other, and also to cut that part low that was left highest the preceding year. By pursuing this method you may expect to have stronger buds, and also keep the hill in good order.

In dressing those hops that have been planted the year before, you ought to cut off both the dead tops and the young suckers which have sprung up from the sets, and also to cover the stocks with fine earth a finger's length in thickness.

The poling. About the middle of April the hops are to be poled, when the shoots begin to sprout up; the poles must be set to the hills deep into the ground, with a square iron picker or crow, that they may the better endure the winds; three poles are sufficient for one hill. These should be placed as near the hill as may be, with their bending tops turned outwards from the hill, to prevent the binds from entangling; and a space between two poles ought to be left open to the south to admit the sun-beams.

The poles ought to be in length 16 or 20 feet, more or less according as the ground is in strength; and great care must be taken not to overpole a young or weak ground, for that will draw the stock too much, and weaken it. If a ground be overpoled, you are not to expect a good crop from it; for the branches which bear the hops will grow very little till the binds have over-reached the poles, which they cannot do when the poles are too long. Two small poles are sufficient for a ground that is young.

If you wait till the sprouts or young binds are grown to the length of a foot, you will be able to make a better judgment where to place the largest poles; but if you stay till they are so long as to fall into the alleys, it will be injurious to them, because they will entangle one with another, and will not clasp about the pole readily.

Maple or aspen poles are accounted the best for hops, on which they are thought to prosper best, because of their warmth; or else, because the climbing of the hop is promoted by means of the roughness of the bark. But for durability, ashen or willow poles are preferable; but chestnut poles are the most durable of all.

If after the hops are grown up you find any of them have been under-poled, taller poles may be placed near those that are too short to receive the binds from them.

The tying. As to the tying of hops, the buds that do not clasp of themselves to the nearest pole when they are grown to three or four feet high, must be guided to it by the hand, turning them to the sun, whose course they will always follow. They must be bound with withered rushes, but not so close as to hinder them from climbing up the pole.

This you must continue to do till all the poles are furnished with binds, of which two or three are enough for a pole; and all the sprouts and binds that you have no occasion for, are to be plucked up; but if the ground be young, then none of these useless binds should be plucked up, but should be wrapt up together in the middle of the hill.

When the binds are grown beyond the reach of your hands, if they forsake the poles, you should make use of a stand-ladder in tying them up.

Hops. Towards the latter end of May, when you have made an end of tying them, the ground must have the summer dressing: this is done by casting up with the spade some fine earth into every hill; and a month after this is done, you must hoe the alleys with a Dutch hoe, and make the hills up to a convenient bigness.

Gathering. About the middle of July hops begin to blow, and will be ready to gather about Bartholomew Tide. A judgment may be made of their ripeness by their strong scent, their hardness, and the brownish colour of their seed.

When by these tokens they appear to be ripe, they must be picked with all the expedition possible; for if at this time a storm of wind should come, it would do them great damage by breaking the branches, and bruising and discolouring the hops; and it is very well known that hops, being picked green and bright, will sell for a third part more than those which are discoloured and brown.

The most convenient way of picking them is into a long square frame of wood, called a *bin*, with a cloth hanging on tenter-hooks within it, to receive the hops as they are picked.

The frame is composed of four pieces of wood joined together, supported by four legs, with a prop at each end to bear up another long piece of wood, placed at a convenient height over the middle of the bin; this serves to lay the poles upon which are to be picked.

This bin is commonly eight feet long, and three feet broad; two poles may be laid on it at a time, and six or eight persons may work at it, three or four on each side.

It will be best to begin to pick the hops on the east or north side of your ground, if you can do it conveniently; this will prevent the south west wind from breaking into the garden.

Having made choice of a plot of the ground containing 11 hills square, place the bin upon the hill which is in the centre, having five hills on each side; and when these hills are picked, remove the bin into another piece of ground of the same extent, and so proceed till the whole hop-ground is finished.

When the poles are drawn up to be picked, you must take great care not to cut the binds too near the hills, especially when the hops are green, because will make the sap to flow excessively.

The hops must be picked very clean, *i. e.* free from leaves and stalks; and, as there shall be occasion, two or three times in a day the bin must be emptied into a hop-bag made of coarse linen cloth, and carried immediately to the oast or kiln in order to be dried; for if they should be long in the bin or bag, they will be apt to heat and be discoloured.

If the weather be hot, there should no more poles be drawn than can be picked in an hour, and they should be gathered in fair weather, if it can be, and when the hops are dry; this will save some expence in firing, and preserve their colour better when they are dried.

The crop of hops being thus bestowed, you are to take care of the poles against another year, which are best to be laid up in a shed, having first stripped off the haulm from them; but if you have not that conveni-

ency,

Hops.

ency, set up three poles in the form of a triangle, or six poles (as you please) wide at bottom; and having set them into the ground, with an iron picker, and bound them together at the top, set the rest of your poles about them; and being thus disposed, none but those on the outside will be subject to the injuries of the weather, for all the inner poles will be kept dry, unless at the top; whereas, if they were on the ground, they would receive more damage in a fortnight than by their standing all the rest of the year.

Drying. The best method of drying hops is with charcoal on an oast or kiln, covered with hair-cloth, of the same form and fashion that is used for drying malt. There is no need to give any particular directions for making these, since every carpenter or bricklayer in those countries where hops grow, or malt is made, knows how to build them.

The kiln ought to be square, and may be of 10, 12, 14, or 16 feet over at the top, where the hops are laid, as your plantation requires, and your room will allow. There ought to be a due proportion between the height and breadth of the kiln and the beguets of the steddle where the fire is kept, viz. if the kiln be 12 feet square on the top, it ought to be nine feet high from the fire, and the steddle ought to be six feet and a half square, and so proportionable in other dimensions.

The hops must be spread even upon the oast a foot thick or more, if the depth of the curb will allow it; but care is to be taken not to overload the oast if the hops be green or wet.

The oast ought to be first warmed with a fire before the hops are laid on, and then an even steady fire must be kept under them; it must not be too fierce at first, lest it scorch the hops, nor must it be suffered to sink or slacken, but rather be increased till the hops be nearly dried, lest the moisture or sweat which the fire has raised fall back or discolour them. When they have lain about nine hours they must be turned, and in two or three hours more they may be taken off the oast. It may be known when they are well dried by the brittleness of the stalks and the easy falling off of the hop leaves.

It is found by experience that the turning of hops, though it be after the most easy and best manner, is not only an injury or waste to the hops, but also an expence of fuel and time, because they require as much fuel and as long a time to dry a small quantity, by turning them, as a large one. Now this may be prevented by having a cover (to be let down and raised at pleasure) to the upper bed whereon the hops lie. This cover may also be tinned, by nailing single tin plates over the face of it; so that when the hops begin to dry, and are ready to burn, i. e. when the greatest part of their moisture is evaporated, then the cover may be let down within a foot or less of the hops (like a reverberatory), which will reflect the heat upon them, so that the top will soon be as dry as the lowermost, and every hop be equally dried.

Bagging. As soon as the hops are taken off the kiln, lay them in a room for three weeks or a month to cool, give, and toughen; for if they are bagged immediately they will powder, but if they lie a while (and the longer they lie the better, provided they be covered close with blankets to secure them from the

air) they may be bagged with more safety, as not being liable to be broken to powder in treading; and this will make them bear treading the better, and the harder they are trodden the better they will keep.

The common method of bagging is as follows: they have a hole made in an upper floor, either round or square, large enough to receive a hop-bag, which consists of four ells and a half of ell-wide cloth, and also contains ordinarily two hundred and a half of hops; they tie a handful of hops in each lower corner of the bag to serve as handles to it; and they fasten the mouth of the bag, so placed that the hoop may rest upon the edges of the hole.

Then he that is to tread the hops down into the bag, treads the hops on every side, another person continually putting them in as he treads them till the bag is full; which being well filled and trodden, they unrip the fastening of the bag to the hoops, and let it down, and close up the mouth of the bag, tying up a handful of hops in each corner of the mouth, as was done in the lower part.

Hops being thus packed, if they have been well dried, and laid up in a dry place, will keep good several years; but care must be taken that they be neither destroyed nor spoiled by the mice making their nests in them.

Produce. The charge of an acre of hop-ground in most parts of England where hops are cultivated, is computed thus: three pounds for the husbandry, four pounds for the wear of the poles, five pounds for picking and drying, one pound ten shillings for dung, one pound for rent, though in some places they pay four or five pounds an acre yearly for the rent of the land, and ten shillings for tythe; in all L. 15 a year. The hop-planters in England reckon that they have but a moderate return, when the produce of an acre of hops does not sell for more than L. 30. They frequently have fifty, sixty, eighty, or a hundred pounds; and in a time of general scarcity considerably more: so that, upon the whole, if the total charge of an acre of hops is computed at fifteen pounds a year, and its average produce at thirty pounds, the clear profit from an acre will be fifteen pounds a year. But the plantation of hops has lately so much increased, and the average produce so much exceeded the consumption, that hops have been with many planters rather a losing than a very profitable article.

Uses. In the spring-time, while the bud is yet tender, the tops of the plant being cut off, and boiled, are ate like asparagus, and found very wholesome, and effectual to loosen the body; the heads and tendrils are good to purify the blood in the scurvy, and most cutaneous diseases; decoctions of the flowers, and syrups thereof, are of use against pestilential fevers; juleps and apozems are also prepared with hops for hypochondriacal and hysterical affections, and to promote the menses.

A pillow stuffed with hops and laid under the head, is said to procure sleep in fevers attended with a delirium. But the principal use of hops is in the brewery for the preservation of malt liquors; which by the superaddition of this balsamic, aperient, and diuretic bitter, become less viscid, less apt to turn sour, more detergent, more disposed to pass off by urine, and in general more salubrious. They are said to contain an

Hops.

Hops,
Hope.

agreeable odoriferous principle, which promotes the vinous fermentation. When slightly boiled or infused in warm water, they increase its spirituousity.

Laws relating to Hops. By 9 Anne, cap. 121. an additional duty of 3d a pound is laid on all hops imported, over and above all other duties; and hops landed before entry and payment of duty, or without warrant for landing, shall be forfeited and burnt; the ship also shall be forfeited, and the person concerned in importing or landing shall forfeit 5 l. a hundred weight. 7 Geo. II. cap. 19. By 9 Anne, cap. 12. there shall be paid a duty of 1d. for every pound of hops grown in Great Britain, and made fit for use, within six months after they are cured and bagged; and hop-grounds are required to be entered on pain of 40s. an acre. Places of curing and keeping are also to be entered, on pain of 50l. which may be visited by an officer at any time without obstruction, under the penalty of 20l. All hops shall, within six weeks after gathering, be brought to such places to be cured and bagged, on pain of 5s. a pound. The re-bagging of foreign hops in British bagging for sale or exportation, incurs a forfeiture of 10l. a hundred weight; and defrauding the king of his duty by using twice or oftener the same bag, with the officer's mark upon it, is liable to a penalty of 40l. The removal of hops before they have been bagged and weighed, incurs a penalty of 50l. Concealment of hops subjects to the forfeiture of 20l. and the concealed hops; and any person who shall privately convey away any hops, with intent to defraud the king and owner, shall forfeit 5s. a pound. And the duties are required to be paid within six months after curing, bagging, and weighing, on pain of double duty, two-thirds to the king, and one-third to the informer. No common brewer, &c. shall use any bitter ingredient instead of hops, on pain of 20l. Hops which have paid the duty may be exported to Ireland; but by 6 Geo. II. cap. 11. there shall be no drawback; and by 7 Geo. II. cap. 19. no foreign hops shall be landed in Ireland. Notice of bagging and weighing shall be sent in writing to the officer, on pain of 50l. 6 Geo. cap. 21. And by 14 Geo. III. cap. 68. the officer shall, on pain of 5l. weigh the bags or pockets, and mark on them the true weight or tare, the planter's name, and place of abode, and the date of the year in which such hops were grown; and the altering or forging, or obliterating such mark, incurs a forfeiture of 10l.—The owners of hops shall keep at their oasts, &c. just weights and scales, and permit the officer to use them on pain of 20l. 6 Geo. cap. 21. And by 10 Geo. III. cap. 44. a penalty of 100l. is inflicted for false scales and weights. The owners are allowed to use casks instead of bags, under the same regulations. 6 Geo. cap. 21. If any person shall mix with hops any drug to alter the colour or scent, he shall forfeit 5l. a hundred weight. If any person shall unlawfully and maliciously cut hop-binds growing on poles in any plantation, he shall be guilty of felony without benefit of clergy. 6 Geo. II. cap. 37. By a late act, five per cent. is added to the duties on hops.

HOPE (Dr John), professor of botany in the university of Edinburgh, was born at Edinburgh on the 10th of May 1725. He was the son of Mr Robert Hope a respectable surgeon, whose father, Lord Ranelagh, made a distinguished figure as one of the sena-

tors of the college of justice in the kingdom of Scotland. By his mother he was descended from the ancient family of Glafs of Sauchie in Stirlingshire. After finishing the usual course of school education, he entered to the university of Edinburgh; and having, as it were, an hereditary predilection for the healing art, his attention was soon particularly directed to that branch of science. Having finished his academical education at Edinburgh, he visited other medical schools; and upon his return to his native country, he obtained the degree of Doctor of Medicine from the university of Glasgow in the beginning of the year 1750. A few months after that, he was admitted a member of the royal college of physicians in Edinburgh, and entered upon the practice of medicine in this city. After he had continued about ten years in practice, discharging the duties of his profession with a degree of judgment, attention, and humanity, which did him great honour; by the death of Dr Alston the botanical chair in the university became vacant; when Dr Hope, by a commission from his sovereign, dated the 13th of April 1761, was appointed king's botanist for Scotland and superintendant of the royal garden at Edinburgh. A few weeks after this he was elected by the town-council of Edinburgh as the successor of Dr Alston in the professorships both of botany and materia medica; and thus he became one of the members of the faculty of medicine in the university. After he had continued for about six years to give regular courses of lectures on these subjects, with no less credit to himself than benefit to his hearers, teaching the one branch during the summer, and the other during the winter months, he found that his health was considerably impaired; which induced him to form the resolution of resigning the materia medica, and of afterwards solely confining his labours as a teacher to his favourite science of botany. This resolution he carried into effect in the year 1768; and by a new commission from his majesty, dated the 8th of May, he was nominated regius professor of medicine and botany in the university, and had the offices of king's botanist and superintendant of the royal garden conferred upon him for life, which till that time had been always granted during pleasure only.

Dr Hope's predecessor, although a learned and worthy man, could never obtain sufficient public funds for the establishment of a proper botanical garden at Edinburgh; and from the situation as well as the extent of the garden at that time, joined to the smallness of its conservatories for plants, it could boast of no riches in the way of exotics. The only field for improvement, therefore, to the botanical student, was the environs of Edinburgh, to which it must indeed be allowed that nature has been uncommonly liberal, in affording a very great variety of indigenous vegetables. In this situation, the establishment of a new garden naturally suggested itself as a grand and important object; and it was accomplished by the zeal and industry of Dr Hope, aided by the munificence of his present majesty. The first assistance given to the undertaking was under the administration of Lord Bute; and afterwards, under that of the duke of Portland, a permanent fund for the support of the botanical garden at this place was established, which may render it not inferior to any in Europe. Dr Hope's unwearied ex-

ertions

Hope. exertions in procuring for the garden the vegetable productions of every climate, could not be exceeded. His endeavours were constantly directed in adding not to the show, but to the riches of the garden; and they were employed with such success, that in a very short time the intelligent botanist might gratify his curiosity, in contemplating the rarest plants of every country which has yet been explored. Nor were his industrious exertions more assiduously bestowed in forming and enriching the garden, than in cherishing and promoting a zeal for botanical studies. From but a very small number of lectures, which were all that his predecessor ever gave, he gradually prolonged the course till it became as complete as any one delivered at this place; and during all this extended course, he taught in such a manner, as clearly demonstrated a degree of ardour and enthusiasm in himself, which could hardly fail to inspire similar emotions in others. But even such precept, and such example, were not the only means he employed for directing the attention of the industrious, ingenious, and laudably ambitious student, to this branch of science. By bestowing, entirely at his own expence, an annual gold medal, as a testimony of superior merit, he gave a spur to exertion, from which the toils of study were alleviated by the love of fame, and the labours of industry converted into the pleasures of emulation.

Dr Hope married the daughter of Dr Stevenson an eminent physician in Edinburgh; by whom he had four sons and one daughter. He died in November 1786. He was a member not only of the Royal Society of London, but also of several foreign societies; and at the time of his death he held the distinguished office of president of the royal college of physicians. Dr Hope, with whom it was a principal object to make botany subservient to the arts more immediately useful to life, and particularly to medicine, was one of the first who, in conjunction with the late Sir Alexander Dick, turned his attention to the practical cultivation of rhubarb in Britain; and he demonstrated the facility with which it might be multiplied. He lived to see it cultivated in such abundance, that the British market was no longer under any necessity of depending upon foreign climates for this valuable and once expensive medicine; also he has shown, that the *asafetida* plant, by proper attention, not only bears the vicissitudes of our climate, but grows in such a vigorous and healthful state as to be fully impregnated with its active gum. There is therefore reason to hope, that by the exertions of future industry, the shop of the apothecary may be supplied with this article also from his own garden. Besides being the author of some papers in the Philosophical Transactions, particularly two respecting the useful plants just mentioned, Dr Hope had in contemplation a more extensive botanical work, on which he had bestowed much study and reflection. It was his wish to increase those advantages which result from the very ingenious and useful artificial arrangement of Linnæus, by conjoining it with a system of vegetables distributed according to their great natural orders. For this purpose, no inconsiderable part of that time which he could spare from other unavoidable engagements was employed in attempts to improve and perfect natural method in the arrangement of vegetables. In this work he had made very

considerable progress; and it must be the subject of sincere regret to every lover of botany, if from the event of his death the public shall be for ever deprived of those fruits of his labours.

HOPE, in ethics, is the desire of some good, attended with a belief of the possibility, at least, of obtaining it, and enlivened with joy, greater or less, according to the greater or less probability of our possessing the object of our hope. Alexander, preparing for his Asian expedition, distributed his hereditary dominions among his friends; allotting to some villages, to others boroughs, to others cities; and being asked what he had reserved for himself, replied, Hope.

Good-Hope. See *GOOD-Hope*.

HOPEA, in botany: A genus of the polyandria order, belonging to the polydelphia class of plants. The calyx is quinquefid, superior; the corolla pentapetalous; the stamina are many and coalited into five pencils; there is one style; the fruit is a plum with a trilocular kernel. There is only one species, the *tinctora*, a native of Carolina.

HOPKINS (Ezekiel), bishop of Derry in Ireland, was the son of an obscure clergyman in Devonshire; and was for some time a chorister of Magdalen college, Oxford, and usher of the adjoining school. He was afterwards a Presbyterian minister, and was extolled as an excellent preacher. John, lord Roberts, happening to hear him preach, was so pleased with his person, his discourse, and his manner, that he retained him as his chaplain when he was sent in quality of lord lieutenant into Ireland, and preferred him to the deanery of Raphoe; and on his being recalled, so strongly recommended him to his successor, that he was soon preferred to the bishopric at Raphoe, whence he was translated to Derry. During the war under the earl of Tyrconnel at the revolution, he withdrew into England; and was chosen minister of St Mary, Aldermanbury, in London, where he died in 1690. His sermons, his exposition of the ten commandments, and that of the Lord's prayer, are much esteemed. His works were printed together in 1710, folio. He was the father of Mr Charles Hopkins, several of whose poetical pieces are in Dryden's Miscellanies.

HOPLITES, **HOPLITÆ** (formed of *οπλον* *armour*), in antiquity, were such of the candidates at the Olympic and other sacred games as ran races in armour.

One of the finest pieces of the famous Parrhasius was a painting which represented two hoplites; the one running, and seeming to sweat large drops; the other laying his arms down, as quite spent and out of breath.

HOPLITODROMOS (formed of *οπλον* *armour*, and *δρομος* *I run*), in the ancient gymnastic sports, a term applied to such persons as went through those toilsome and robust exercises in complete armour; by which the exercise became much more violent, and the wearing of armour in the time of battle much more easy.

HOPLOMACHI, *Οπλομαχοι* (composed of *οπλον* *armour*, and *μαχομαι* *I fight*), in antiquity, were a species of gladiators who fought in armour; either completely armed from head to foot, or only with a cask and cuirass.

HOPPER, a vessel wherein seed-corn is carried at the time of sowing.

Hope
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Hopper.

The

Hor
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Horatius.

The word is also used for that wooden trough in a mill, into which the corn is put to be ground.

HOR, a mountain, or mountainous tract of Arabia Petræa, situated in that circuit which the Israelites took to the south and south-east of Edom in their way to the borders of Moab: on this mountain Aaron died. The inhabitants were called *Horites*. This tract was also called *Seir*, either from a native Horite, or from Esau, by way of anticipation from his hairy habit of body; whose posterity drove out the Horites.

HORÆ. See HOURS.

HORÆA, in antiquity, solemn sacrifices, consisting of fruits, &c. offered in spring, summer, autumn, and winter; that heaven might grant mild and temperate weather. These, according to Meursius, were offered to the goddesses called *Ἵρας*, i. e. *Hours*, who were three in number, attended upon the Sun, presided over the four seasons of the year, and had divine worship paid them at Athens.

HORAPOLLO, or HORUS APOLLO, a grammarian of Panopolis in Egypt, according to Suidas, who first taught at Alexandria, and then at Constantinople under the reign of Theodosius. There are extant under his name, two books on the hieroglyphics of the Egyptians; which Aldus first published in Greek in 1505, in folio; and they have often been published since, with a Latin version and notes. It is not certain, however, that the grammarian of Alexandria was the author of these books; they being rather thought to belong to another Horapollon of more ancient date: on which head, see *Fabricius's Bibliotheca Græca*.

HORATII, three Roman brothers, who, under the reign of Tullus Hostilius, fought against the three Curiatii, who belonged to the Albanian army. Two of the Horatii were first killed; but the third, by his address, successively slew the three Curiatii, and by this victory rendered the city of Alba subject to the Romans. See ROME.

HORATIUS, surnamed *Cocles* from his losing an eye in combat, was nephew to the consul Horatius Pulvillus, and descended from one of the three brothers who fought against the Curiatii. Porfenna, laying siege to Rome, drove the Romans from Janiculum; and pursued them to the wooden bridge over the Tiber, which joined the city to Janiculum. Largius, Herminius, and Horatius Cocles, sustained the shock of the enemy on the bridge, and prevented their entering the city with the Romans; but Largius and Herminius having passed the bridge, Horatius Cocles was left alone, and repulsed the enemy till the bridge was broken under him: he then threw himself armed into the Tyber, swam across the river, and entered Rome in triumph.

HORATIUS (Quintus Flaccus), the most excellent of the Latin poets of the lyric and satirical kind, and the most judicious critic in the reign of Augustus, was the grandson of a freedman, and was born at Venusium 64 B. C. He had the best masters in Rome, after which he completed his education at Athens. Having taken up arms, he embraced the party of Brutus and Cassius, but left his shield at the battle of Philippi. Some time after, he gave himself up entirely to the study of polite literature and poetry. His ta-

lents soon made him known to Augustus and Mæcenas, who had a particular esteem for him, and loaded him with favours. Horace also contracted a strict friendship with Agrippa, Pollio, Virgil, and all the other great men of his time. He lived without ambition, and led a tranquil and agreeable life with his friends; but was subject to a defluxion in his eyes. He died at the age of 57. There are still extant his Odes, Epistles, Satires, and Art of Poetry; of which there have been a great number of editions. The best are those of the Louvre, in 1642, folio; of Paris, 1691, quarto; of Cambridge, 1699; and that with Bentley's emendations, printed at Cambridge in 1711.

HORD, in geography, is used for a company of wandering people, which have no settled habitation, but stroll about, dwelling in waggons or under tents, to be ready to shift as soon as the herbage, fruit, and the present province, is eaten bare: such are several tribes of the Tartars, particularly those who inhabit beyond the Wolga, in the kingdom of Astracan and Bulgaria.

A hord consists of 50 or 60 tents, ranged in a circle, and leaving an open place in the middle. The inhabitants in each hord usually form a military company or troop, the eldest whereof is commonly the captain, and depends on the general or prince of the whole nation.

HORDEUM, BARLEY, in botany: A genus of the digynia order, belonging to the triandria class of plants; and in the natural method ranking under the 4th order, *Gramina*. The calyx is lateral, bivalved, unisporous, and triple. The involucre consists of six leaves, and contains three flowers. There are eight species; only one of which, viz. the murinum, or wall-barley-grass, is a native of Britain. The native place of the vulgare, or common barley cultivated in our fields, is not known. For the culture, &c. of common barley, see AGRICULTURE, n° 139—146.

HORDICALIA, or HORDICIDIA, in antiquity, a religious feast held among the Romans, wherein they sacrificed cattle big with young. This feast fell on April 15. on which day they sacrificed 30 cows with calf to the goddess Tellus or the Earth; part of them were sacrificed in the temple of Jupiter. The calves taken out of their bellies were burnt to ashes at first by the pontifices, afterwards by the eldest of the vestal virgins.

HOREB, or OREB, a mountain of Arabia Petræa, contiguous to and on the south side of mount Sinai; the scene of many miraculous appearances.

HORESTI (Tacitus), a people of Britain, beyond Solway Frith. Now *Eskdale* (Camden).

HORITES, an ancient people, who at the beginning dwelt in the mountains of Seir beyond Jordan (Gen. xiv. 6.) They had princes, and were powerful, even before Esau made a conquest of their country, (*id.* xxxvi. 20—30.) The Horites, the descendants of Seir, and the Edomites, seem afterwards to have been confounded, and to have composed but one people (Deut. ii. 2. xxxiii. 2. and Judg. v. 4.) They dwelt in Arabia Petræa, and Arabia Deserta, to the south-east of the promised land. We find the Hebrew word *חורים* *Chorim*, which in the book of Genesis is translated *Horites*, to be used in an appellative sense in several other passages of scripture, and to signify nobles,

Hord
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Horites.

Horehound

Horizon-
tal.

bles, or great and powerful men (1 Kings xxi. 8, 11. and Neh. ii. 16. iv. 14. v. 7. vi. 17. vii. 5. xii. 17. Eccl. x. 17. Isa. xxxiv. 12. Jer. xxvii. 20. xxxix. 6.); and it is very probable that the Greeks derived from hence their *heroes* in like manner as they derived *Anax* "a king," from the sons of Anak, the famous giant in Palestine.

HOREHOUND, *BALLOTA*, or *Stachys*, in botany. See **MARRUBIUM**.

HORIZON, or **HORISON**, in geography and astronomy, a great circle of the sphere, dividing the world into two parts or hemispheres; the one upper and visible, the other lower and hid. The word is pure Greek, *οριζων*, which literally signifies "bounding or terminating the sight;" being formed of *οριζω*, *termino*, *definio*, "I bound, I limit;" whence it is also called *finitor*, "finisher." See **ASTRONOMY** and **GEOGRAPHY**.

The horizon is either *rational* or *sensible*.

Rational, *true*, or *astronomical HORIZON*, which is also called simply and absolutely *the horizon*, is a great circle, whose plane passes through the centre of the earth, and whose poles are the zenith and nadir. It divides the sphere into two equal parts or hemispheres.

Sensible, *visible*, or *apparent HORIZON*, is a lesser circle of the sphere, which divides the visible part of the sphere from the invisible. Its poles, too, are the zenith and nadir: and consequently the *sensible horizon* is parallel to the *rational*; and it is cut at right angles, and into two equal parts, by the verticals.---The *sensible horizon* is divided into *eastern* and *western*. The *eastern* or *ortive horizon*, is that part of the horizon wherein the heavenly bodies rise. The *western* or *occidial horizon*, is that wherein the stars set. The altitude or elevation of any point of the sphere, is an arch of a vertical circle intercepted between it and the sensible horizon.

By *sensible horizon* is also frequently meant a circle; which determines the segment of the surface of the earth, over which the eye can reach; called also the *physical horizon*. In this sense we say, a spacious *horizon*, a narrow scanty *horizon*.

HORIZONTAL, something that relates to the horizon, is taken in the horizon, or on a level with the horizon.---We say, a *horizontal plane*, *horizontal line*, &c.

HORIZONTAL Dial, is that drawn on a parallel to the horizon: having its gnomon, or style, elevated according to the altitude of the pole of the place it is designed for. Horizontal dials are, of all others, the most simple and easy. The manner of describing them, see under the article **DIAL**.

HORIZONTAL Line, in perspective, is a right line drawn through the principal point, parallel to the horizon: or, it is the intersection of the horizontal and perspective planes. See **PERSPECTIVE**.

HORIZONTAL Plane, is that which is parallel to the horizon of the place, or nothing inclined thereto.

The business of levelling is to find whether two points be in the horizontal plane; or how much the deviation is. See **LEVELLING**.

HORIZONTAL Plane, in perspective, is a plane parallel to the horizon, passing through the eye, and cutting the perspective plane at right angles.

HORIZONTAL Projection. See **GEOGRAPHY**, n° 66, 69. **HORIZONTAL Range**, or *Level Range*, of a piece of ordnance, is the line it describes, when directed parallel to the horizon or horizontal line. See **GUNNERY**, *passim*.

HORIZONTAL Moon. See **ASTRONOMY**, n° 374.

HORIZONTAL Speculum. See **SPECULUM**.

HORMINUM, *CLARY*, in botany: A genus of the gymnospermia order, belonging to the didynamia class of plants; and in the natural method ranking under the 42d order, *Verticillate*. The calyx is campanulated, with four segments nearly equal, the fourth larger, and emarginated; the upper lip of the corolla concave. There are several species; the most remarkable of which is the verbenaceum, or common wild clary. It grows naturally on sandy and gravelly ground in many parts of Britain. It has sometimes been called *oculus Christi*, from the supposed virtues of its seeds in clearing the sight, which it does by its viscous covering; for when any thing happens to fall into the eye, if one of the seeds is put in at one corner, and the eyelid kept close over it, moving the seed gently along the eye, whatever happens to be there will stick to it, and so be brought out. The virtues of this are supposed to be the same as those of the garden clary, but not quite so powerful.

HORN, in physiology, a hard substance growing on the heads of divers animals, particularly the cloven-footed quadrupeds; and serving them both as weapons of offence and defence.

The horn of animals is of the same nature as their gelatinous matter; and is only that matter charged with a less quantity of water, and a larger quantity of earth, and sufficiently condensed to have a firm and solid consistence. By digesting horn with water in Papin's digester, it may be entirely converted into jelly.

Horn is a perfectly animalised matter, and furnishes in distillation the same principles as all animal matters; that is, at first a pure phlegm, with a degree of heat not exceeding that of boiling water; then a volatile alkaline spirit, which becomes more and more penetrating and strong; a fetid, light, and thin oil; a concrete volatile salt, which forms ramifications upon the sides of the receiver; much air; fetid oil, which becomes more and more black and thick; and lastly, it leaves in the retort a considerable quantity of almost incombustible coal, from which, after its incineration, scarcely any fixed alkali can be obtained.

Animal oil, and particularly that which is drawn first in the distillation of horn, is susceptible of acquiring great thinness and volatility by repeated distillations, and is then called the *oil of dippel*.

The horns of stags, and of other animals of that kind, are the most proper to furnish the animal oil to be rectified in the manner of dippel; because they yield the largest quantity. These horns also differ from the horns of other animals in this, that they contain a larger quantity of the same kind of earth which is in bones; hence they seem to possess an intermediate nature betwixt horns and bones.

Hart's-HORN. See **HART'S-HORN**.

HORNS make a considerable article in the arts and manufactures. Bullocks horns, softened by the fire, serve to make lanthorns, combs, knives, ink-horns, tobacco-boxes, &c.

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Horns.

Horn.

Dyeing of HORN—Black is performed by steeping brags in aqua-fortis till it be returned green: with this the horn is to be washed once or twice, and then put into a warmed decoction of logwood and water. Green is begun by boiling it, &c. in alum water; then with verdigrise, ammoniac, and white-wine vinegar; keeping it hot therein till sufficiently green. Red is begun by boiling it in alum-water, and finished by decoction in a liquor compounded of quick-lime steeped in rain-water, strained, and to every pint an ounce of Brazil-wood added. In this decoction the bone, &c. is to be boiled till sufficiently red.

Dr Lewis informs us that horns receive a deep black stain from solution of silver. It ought to be diluted to such a degree as not sensibly to corrode the subject; and applied two or three times, if necessary, at considerable intervals, the matter being exposed as much as possible to the sun, to hasten the appearance and deepening of the colour.

Dyeing or staining HORN to imitate Tortoise-shell.—The horn to be dyed must be first pressed into proper plates, scales, or other flat form; and the following mixture prepared. Take of quick-lime two parts, and of litharge one part; temper them together to the consistence of a soft paste with soap-ley. Put this paste over all the parts of the horn, except such as are proper to be left transparent, in order to give it a nearer resemblance of the tortoise-shell. The horn must remain in this manner covered with the paste till it be thoroughly dry; when, the paste being brushed off, the horn will be found partly opaque and partly transparent, in the manner of tortoise-shell; and when put over a foil, of the kind of latten called *affidue*, will be scarcely distinguishable from it. It requires some degree of fancy and judgment to dispose of the paste in such a manner as to form a variety of transparent parts, of different magnitudes and figures, to look like the effect of nature: and it will be an improvement to add semitransparent parts; which may be done by mixing whitening with some of the paste to weaken its operation in particular places; by which spots of a reddish brown will be produced, which if properly interspersed, especially on the edges of the dark parts, will greatly increase both the beauty of the work, and its similitude with the real tortoise-shell.

HORN is also a sort of musical instrument of the wind kind; chiefly used in hunting, to animate and bring together the dogs and the hunters. The term anciently was, *wind a horn*; all horns being in those times compassed; but since straight horns are come in fashion, they say *blow a horn*, and sometimes *sound a horn*.—There are various lessons on a horn; as the recheat, double recheat, royal recheat, running or farewell recheat, &c. See RECHEAT.

The *French horn* is no other than a wreathed or contorted trumpet. It labours under the same defects as the trumpet itself; but these have of late been so palliated, as to require no particular selection of keys for this instrument. In the beginning of the year 1773, a foreigner, named Spandau, played in a concert at the opera-house a concerto, part whereof was in the key of C, with the minor-third; in the performance of which all the intervals seemed to be as perfect as in any wind-instrument. This improvement was effected by putting his right-hand into the bottom

or bell of the instrument, and attempering the sounds by the application of his fingers to different parts of the tube.

The Hebrews made use of horns, formed of rams horns, to proclaim the jubilee; whence the name JUBILEE.

Cape-HORN. See *Terra del FUEGO*.

HORN-Beam, in botany. See CARPINUS.

HORN-Bill, in ornithology. See BUCEROS.

HORN Blend, is a black or green indurated bole or clay, consisting of scaly particles, which are distinguishable from those of mica, by being less shining, thicker, and rectangular. It is generally found amongst iron ores, and sometimes intermixed with mica, forming a compact stone.

Human-HORNS. In Dr Charles Leigh's natural history of Lancashire, Cheshire, and the Peak in Derbyshire, is the print of a woman with two horns on her head. When she was 28 years of age an excrescence grew upon her head like a wen, which continued 30 years, and then grew into two horns. After four years she cast them, and in their place grew two others. After four years she cast these also; and the horns which were on her head in 1668 (the time when the account was written) were then loose. Her picture and one of her horns are in Ashmole's museum. In the university library at Edinburgh is preserved a horn which was cut from the head of Elizabeth Love, in the 50th year of her age. It grew three inches above the ear, and was growing seven years.

HORN Distemper, a disease incident to horned cattle, affecting the internal substance of the horn commonly called the pith, which it insensibly wastes, and leaves the horn hollow. The pith is a spongy bone, the cells of which are filled with an unctuous matter. It is furnished with a great number of small blood vessels, is overspread with a thin membrane, and appears to be united by sutures with the bones of the head.—According to an account of this distemper, published by Dr Tofts in the Memoirs of the American Academy, vol. i. the said spongy bone is sometimes partly, and sometimes entirely, wasted. The horn loses its natural heat, and a degree of coldness is felt upon handling it. The distemper, however, is seldom suspected without a particular acquaintance with the other symptoms, which are a dulness in the countenance of the beast, a sluggishness in moving, a failure of appetite, an inclination to lie down, and, when accompanied with an inflammation of the brain, a giddiness and frequent tossing of the head. The limbs are sometimes affected with stiffness, as in a rheumatism; in cows the milk often fails, the udder is hard, and in almost all cases there is a sudden wasting of the flesh. As soon as the distemper is discovered, an opening into the diseased horn should be immediately made; which may be done with a gimlet of a moderate size, in such a part of the horn as is most favourable for the discharge. It is recommended as most prudent to bore at first two or three inches above the head. If it is found hollow, and the gimlet passes through to the opposite side, and no blood discharges from the aperture, it may be best to bore still lower, and as near the head as it shall be judged that the hollowness extends. This opening is affirmed to be a necessary measure, and often gives immediate relief. Care must

Horn.

Horn
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Horners.

be taken to keep it clear, as it is apt to be clogged by a thin fluid that gradually oozes out and fills up the passage. Some have practised sawing off the horn; but, according to the best observations, it does not succeed better than boring. From the cases Dr Tufts has seen, he is led to conclude that injections are in general unnecessary; that, when the distemper is early discovered, no more is required than a proper opening into the horn, keeping it sufficiently clear for the admission of fresh air, the removal of the compression, and the discharge of floating matter. But when the distemper has communicated its effects to the brain, so as to produce a high degree of inflammation, it is much to be doubted whether any method of cure will succeed.

HORN-Fish, Gar-fish, or Sea-Needle. See *ESOX*.

HORN-Work, in fortification, an outwork composed of two demi-bastions joined by a curtain. See *FORTIFICATION*.

HORNBY, a town of Lancashire in England, seated on a branch of the river Lune, and beautified with a handsome parochial chapel. The ruins of a decayed castle are still to be seen here. W. Long. 2. 20. N. Lat. 54. 6.

HORN-CASTLE, a town of Lincolnshire in England. It had a castle, as the name imports; from the architecture of which, and the Roman coins that are sometimes dug up here, it is thought to have been a camp or station of the Romans. The town is well built, and is almost surrounded with water. It is a signiory of 13 lordships. In these lordships there are several chapels for the convenience of the inhabitants, who are at too great a distance from the mother-church, and pretty numerous. It has a market on Saturdays, and fairs in June and August.

HORNDON, a town of Essex, in England. It stands near a rivulet, that at a small distance from hence falls into the Thames, which is there called the *Hope*. E. Long. 0. 30. N. Lat. 51. 20.

HORNECK (Dr Anthony), a learned and pious divine, was born at Baccharach, in the Lower Palatinate, in 1641. He studied divinity under Dr Spanheim at Heidelberg; and afterwards coming to England, completed his studies at Oxford, and became vicar of Allhallows in that city. In 1665, he removed into the family of the duke of Albemarle; and was tutor to his grace's son, then lord Torrington. The duke presented him to the rectory of Doulton in Devonshire, and procured for him a prebend in Exeter. He was afterwards chosen preacher of the Savoy. In 1693, he was collated to a prebend in Westminster, and the same year admitted to a prebend in the cathedral of Wells. He published, 1. *The great law of consideration.* 2. *The happy ascetick.* 3. *Delight and judgment.* 4. *The fire of the altar.* 5. *The exercise of prayer.* 6. *The crucified Jesus.* 7. *Several sermons, and other works.* He died in 1696, and was interred in Westminster abbey, where a monument is erected to his memory.

HORNERS, those people whose business it is to prepare various utensils of the horns of cattle. The horners were a very ancient and considerable fraternity in the city of London some hundred years ago. In the reign of Edward II. they complained to parliament, that by foreigners buying up the horns in Eng-

land, they were in danger of being ruined, and this business lost to the nation. For this reason was made the statute 6 Edw. IV. by which the sale of horns to foreigners (except such as the said horners refused) was prohibited; and the wardens had power granted them to search all the markets in London and 24 miles round, and to inspect Sturbridge and Ely fairs, to prevent such practices, and to purchase horns at stated prices. But on plausible pretences this law was repealed in the reign of James I. and thereupon the old evil revived. The horners again applied to parliament, and king Edward's statute was renewed (excepting as to the inspection of the fairs), and still remains in force. The importation of unwrought horns into this country is also prohibited. In 1750, there were exported to Holland 514,500 lantern-leaves, besides powder flasks. There was formerly a duty of 20 shillings a thousand, under which in 1682 were exported 76,650; but in the reign of George I. this duty was taken off, and these and all other manufactures made of horns may be exported free. The present company of horners were incorporated January 12. 1638; and consist of a master, two wardens, and nine assistants, without livery or hall. They have a warehouse in Spitalfields, to which the horns are sent as brought from town and country markets, and thence regularly divided, the widows and orphans of deceased members having equal shares.

HORNET, in zoology, a species of wasp. See *VESPA*.

HORNING, in Scots law, a writing issuing from the signet, in his majesty's name, at the instance of a creditor against his debtor, commanding him to pay or perform within a certain time, under pain of being declared rebel, and by a caption put in prison.

HORNIUS (George), professor of history at Leyden, was born in the Palatinate, and died at Leyden in 1670. He was a little maniacal towards the end of his life; which disorder was supposed to be occasioned by the loss of 6000 florins he had entrusted with an alchemist at the Hague. His works are, 1. *Historia Ecclesiastica ad an. 1666.* This has been well esteemed. 2. *De Originibus Americanis*, 1652, 8vo. 3. *Geographia Vetus & Nova.* 4. *Orbis Politicus.* He was a man of vast reading, rather than great parts.

HORNSEY, a town in Yorkshire, 188 miles from London. It is almost surrounded by a small arm of the sea; and the church having a high steeple, is a noted sea-mark. Not many years ago there was a street here called *Hornsey beck*, which was washed away by the sea, except a house or two. E. Long. 0. 6. N. Lat. 54. 0.

HORNSEY, a town of Middlesex, five miles north of London. It is a long straggling place, situated in a low valley, but extremely pleasant, having the new-river winding through it. Its church, of which Highgate is a hamlet, is supposed to be built with the stones that came from Lodge-Hill, the bishop of London's hunting-seat in his park here; it having been his manor from the most ancient times. About a mile nearer this is a coppice of young trees, called *Hornsey-wood*, at the entrance of which is a public house, to which great numbers of persons resort from the city. This house being situated on the top of a hill, affords a delightful prospect of the neighbouring country.

HORNSPIPE, a common instrument of music in Wales,

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Hornpipe.

Horologium,
Horoscope

Wales, consisting of a wooden pipe, with holes at stated distances, and a horn at each end; the one to collect the wind blown into it by the mouth, and the other to carry off the sounds as modulated by the performer.

HORNPIPE is also the name of an English air, probably derived from the above instrument. The measure of this air is triple time, with six crotchets in a bar; four of which are to be beat with the hand down and two up.

HOROLOGIUM, *ὁρολογιον* (composed of *ὥρα hora*, "time, hour," and *λογος* "speech, discourse"), a common name among ancient writers for any instrument or machine for measuring the hours; (see CHRONOMETER).—Such are our clocks, watches, sun-dials, &c. See CLOCK, WATCH, DIAL, and CLEPSYDRA.

Modern inventions, and gradual improvements, have given birth to some new terms that come properly under this head, and annexed new meanings to others totally different from what they had originally. All chronometers that announced the hour by striking on a bell, were called *clocks*: thus, we read of pocket-clocks, though nothing could seem more absurd than to suppose that a clock, according to the modern idea, should be carried in the pocket. In like manner, all clocks that did not strike the hour, were called *watches* or *time-pieces*; and the different parts of a striking clock were distinguished by the watch-part and the clock-part; the former meaning that part which measures the time, and the latter the part which proclaims the hours. In the report of Sir Isaac Newton to the house of commons, *anno* 1713, relative to the longitude act, he states the difficulties of ascertaining the longitude by means of a watch: yet it is obvious, from several circumstances, that his remarks were directly to be understood of a time-piece regulated by a pendulum; for his objections are founded on the known properties of the pendulum, some of which differ essentially from the properties of the balance and spring. It is also to be remembered, that all the attempts of Huygens for finding the longitude were by means of pendulum clocks that did not strike the hour, and consequently, according to the language of the times, were called *watches*. At this time such machines for measuring time as are fixed in their place are called *clocks*, if they strike the hour: if they do not strike the hour, they are called *time-pieces*; and when constructed with more care, for a more accurate measure of time, they are called *regulators*. Some artists of late have affected to call such watches as were constructed for astronomical and nautical observations by the name of *time-pieces*, probably to intimate that they possess the advantages of those constructed with a pendulum.

Mr John Harrison first gave the name of *time-keeper* to his watch, for the performance of which he received from parliament the sum of L. 20,000. See LONGITUDE.

For the account of the principles of this machine, see TIME-KEEPER. And for the chief improvements that have been made for the more accurate measure of time, see PALLETS, PENDULUM, and SCAPEMENT.

HOROSCOPE, in astrology, the degree or point of the heavens rising above the eastern point of the horizon at any given time when a prediction is to be made of a future event: as, the fortune of a person

then born, the success of a design then laid, the weather, &c. The word is composed of *ὥρα hora*, "hour," and the verb *σκέπτομαι, specto, considero*, "I consider."

They were formerly so infatuated with horoscopes, that Albertus Magnus, Cardan, and others, are said to have had the temerity to draw that of Jesus Christ.

HOROSCOPE is also used for a scheme or figure of the twelve houses; i. e. the twelve signs of the zodiac, wherein is marked the disposition of the heavens for any given time. Thus we say, to draw a horoscope, construct a horoscope, &c. We call it, more peculiarly, *calculating a nativity*, when the life and fortune of a person are the subject of the prediction; for they draw horoscopes of cities, great enterprizes, &c. See HOUSE.

HOROSCOPY. See DIVINATION, n° 2.

HORREA, in Roman antiquity, were public magazines of corn and salt meat, out of which the soldiers were furnished on their march in the military roads of the empire. *Horrea* was also the name which they gave to their granaries.

HORROX (Jeremiah), an eminent English astronomer in the 17th century, was born at Texteth near Liverpool in Lancashire in 1619. He died, to the great loss of that science and of the world, in the 23d year of his age, after he had just finished his *Venus in sole visa*; which, with some other works, were published by Dr Wallis, in quarto.

HORROR, strictly signifies such an excess of fear as makes a person tremble. See FEAR, FRIGHT, and TERROR. In medicine, it denotes a shivering and shaking of the whole body, coming by fits. It is common at the beginning of all fevers, but is particularly remarkable in those of the intermitting kind.

HORROR of a Vacuum, was an imaginary principle among the ancient philosophers, to which they ascribed the ascent of water in pumps, and other similar phenomena, which are now known to be occasioned by the weight of the air.

HORSE, in zoology. See the article EQUUS.

Horses were very rare in Judæa till Solomon's time. Before him we find no horsemen mentioned in the armies of Israel. David having won a great battle against Hadadezer king of Shobah (2 Sam. viii. 4, 5), took 1700 horses, and lamed all belonging to the chariots of war, reserving only 100 chariots. The judges and princes of Israel used generally to ride on mules or asses. After David's time, horses were more common in the country of Judah, &c. Solomon is the first king of Judah who had a great number of horses, and he kept them rather for pomp than for war; for we do not read that he made any military expeditions. He had, says the scripture (1 Kings iv. 26.) 40,000 stalls of horses for his chariots, and 12,000 horsemen distributed in his fortified places (1 Kings x. 26.) He had his horses from Egypt (*ibid.* ver. 28, 29.); and there was not a set which did not cost him more than 600 shekels, which make of our money about 90l. Moses had forbidden the king of the Hebrews to keep a great number of horses (Deut. xvii. 16.), lest at any time he should be inclined to carry the people back into Egypt.

We read in the second book of Kings (xxiii. 17.), that Josiah took away the horses which the kings of Judah his predecessors had consecrated to the sun. We know

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Horse. know the sun was worshipped over all the east, and that the horse, the swiftest of tame beasts, was consecrated to this deity, who was represented as riding in a chariot drawn by the most beautiful and swiftest horses in the world, and performing every day his journey from east to west, in order to communicate his light to mankind. Xenophon describes a solemn sacrifice of horses, which was made with ceremony to the sun: they were all the finest steeds, and were led with a white chariot, crowned, and consecrated to the same god. We may believe that the horses which Josiah removed out of the court of the temple, were appointed for the like sacrifices. The rabbins inform us, that these horses were every morning put to the chariots dedicated to the sun, whereof there is mention made in the same book; and that the king, or some of his officers, got up and rode to meet the sun in its rising, as far as from the eastern gate of the temple to the suburbs of Jerusalem. Others are of opinion, that the horses mentioned in the book of kings were of wood, stone, or metal, erected in the temple in honour of the sun: Others, that they were horses which none were permitted to ride or fasten to the yoke, but were free, and left to themselves, like those which Julius Cæsar let loose and set at liberty after his passage of the Rubicon.

Horses were used both amongst the Greeks and Romans in war, but were not originally very numerous; for as each horseman provided his own horse, few would be able to bear the expence. Horses for a considerable time were managed by the voice alone, or by a switch, without bridle, saddle, or stirrups. Their harness was skins of beasts, or sometimes cloth. Both horses and men amongst the Greeks underwent a severe probation before their admission into the cavalry. —Horse-races were common amongst the Greeks and Romans, and the place where they ran or breathed their couriers was called *hippodromus*.

Management of a Horse upon and after a Journey. See that his shoes be not too strait, or press his feet, but be exactly shaped; and let him be shod some days before you begin a journey, that they may be settled to his feet.

Sportsman's Dictionary. Observe that he is furnished with a bitt proper for him, and by no means too heavy, which may incline him to carry low, or to rest upon the hand when he grows weary, which horsemen call *making use of his fifth leg*.

The mouth of the bitt should rest upon his bars about half a finger's-breadth from his tusks, so as not to make him frumple his lips; the curb should rest in the hollow of his beard a little above the chin; and if it gall him, you must defend the place with a piece of buff or other soft leather.

Take notice that the saddle do not rest upon his withers, reins, or back-bone, and that one part of it do not press his back more than another.

Some riders gall a horse's sides below the saddle with their stirrup-leathers, especially if he be lean; to hinder it, you should fix a leather-strap between the points of the fore and hind-bows of the saddle, and make the stirrup-leather pass over them.

Begin your journey with short marches, especially if your horse has not been exercised for a long time: suffer him to stale as often as you find him inclined;

and not only so, but invite him to it: but do not excite your mares to stale, because their vigour will be thereby diminished.

It is advisable to ride very softly, for a quarter or half an hour before you arrive at the inn, that the horse not being too warm, nor out of breath, when put into the stable, you may unbridle him: but if your business obliges you to put on sharply, you must then (the weather being warm) let him be walked in a man's hand, that he may cool by degrees; otherwise, if it be very cold, let him be covered with cloths, and walked up and down in some place free from wind; but in case you have not the conveniency of a sheltered walk, stable him forthwith, and let his whole body be rubbed and dried with straw.

Although some people will have their horses legs rubbed down with straw as soon as they are brought into the stable, thinking to supple them by that means; yet it is one of the greatest errors that can be committed, and produces no other effects than to draw down into the legs those humours that are always stirred up by the fatigue of the journey: not that the rubbing of horses legs is to be disallowed; on the contrary, we highly approve of it, only would not have it done at their first arrival, but when they are perfectly cooled.

Being come to your inn, as soon as your horse is partly dried, and ceases to beat in the flanks, let him be unbridled, his bit washed, cleansed, and wiped, and let him eat his hay at pleasure.

If your horse be very dry, and you have not given him water on the road, give him oats washed in good mild ale.

The dust and sand will sometimes so dry the tongues and mouths of horses, that they lose their appetites: in such case, give them bran well moistened with water to cool and refresh their mouths; or wash their mouths and tongues with a wet sponge, to oblige them to eat.

The foregoing directions are to be observed after moderate riding; but if you have rode excessively hard, unsaddle your horse, and scrape off the sweat with a sweating-knife, or scraper, holding it with both hands, and going always with the hair; then rub his head and ears with a large hair-cloth, wipe him also between the fore-legs and hind-legs; in the mean while, his body should be rubbed all over with straw, especially under his belly and beneath the saddle, till he is thoroughly dry.

That done, set on the saddle again, cover him; and if you have a warm place, let him be gently led up and down in it, for a quarter of an hour; but if not, let him dry where he stands.

Or you may unsaddle him immediately; scrape off the sweat; let the ostler take a little vinegar in his mouth, and squirt it into the horse's; then rub his head, between the fore and hind-legs, and his whole body, till he is pretty dry: let him not drink till thoroughly cool and has eaten a few oats; for many, by drinking too soon, have been spoiled. Set the saddle in the sun or by a fire, in order to dry the panels.

When horses are arrived in an inn, a man should, before they are unbridled, lift up their feet, to see whether they want any of their shoes, or if those they

Horse. have do not rest upon their sides; afterwards he should pick and clear them of the earth and gravel, which may be got betwixt their shoes and soles.

If you water them abroad, upon their return from the river cause their feet to be stopped with cow-dung, which will ease the pain therein; and if it be in the evening, let the dung continue in their feet all night, to keep them soft and in good condition: but if your horse have brittle feet, it will be requisite to anoint the fore-feet, at the on-setting of the hoofs, with butter, oil, or hog's-grease, before you water him in the morning, and in dry weather they should be also greased at noon.

Many horses, as soon as unbridled, instead of eating, lay themselves down to rest, by reason of the great pain they have in their feet, so that a man is apt to think them sick: but if he looks to their eyes, he will see they are lively and good; and if he offers them meat as they are lying, they will eat it very willingly; yet if he handles their feet, he will find them extremely hot, which discovers their suffering in that part. You must therefore see if their shoes do not rest upon their soles, which is somewhat difficult to be certainly known without unshoeing them; but if you take off their shoes, then look to the inside of them, and you may perceive that those parts which rest upon the soles are more smooth and shining than the others: in this case you are to pare their feet in those parts, and fix on their shoes again, anointing the hoofs, and stopping the soles with scalding hot black pitch or tar.

After a long day's journey, at night feel your horse's back, if he be pinched, galled, or swelled (if you do not immediately discover it, perhaps you may after supper), there is nothing better than to rub it with good brandy and the white of an egg. If the galls are between the legs, use the same remedy; but if the ostler rubs him well between the legs, he will seldom be galled in that part.

In order to preserve horses after travel, take these few useful instructions. When you are arrived from a journey, immediately draw the two heel-nails of the fore-feet; and, if it be a large shoe, then four: two or three days after, you may blood him in the neck, and feed him for 10 or 12 days only with wet bran, without giving him any oats; but keep him well littered.

The reason why you are to draw the heel-nails, is because the heels are apt to swell, and if they are not thus eased, the shoes would press and straiten them too much: it is also advisable to stop them with cow-dung for a while; but do not take the shoes off, nor pare the feet, because the humours are drawn down by that means.

The following bath will be very serviceable for preserving your horse's legs. Take the dung of a cow or ox and make it thin with vinegar, so as to be of the consistence of thick broth; and having added a handful of small salt, rub his fore-legs from the knees, and the hind-legs from the gambrels, chafing them well with and against the hair, that the remedy may sink in and stick to those parts, that they may be all covered over with it. Thus leave the horse till morning, not wetting his legs, but giving him his water that evening in a pail: next morning lead him to the ri-

ver, or wash his legs in well-water, which is very good, and will keep them from swelling. **Horse.**

Those persons, who, to recover their horses feet, make a hole in them, which they fill with moistened cow-dung, and keep it in their fore-feet during the space of a month, do very ill; because, though the continual moisture that issues from the dung occasions the growing of the hoof, yet it dries and shrinks it so excessively when out of that place, that it splits and breaks like glass, and the foot immediately straitens. For it is certain, that cow-dung (contrary to the opinion of many people) spoils a horse's hoof: it does indeed moisten the sole; but it dries up the hoof, which is of a different nature from it. In order, therefore, to recover a horse's feet, instead of cow-dung, fill a hole with blue wet clay, and make him keep his fore-feet in it for a month.

Most horses that are fatigued, or over-rid, and made lean by long journeys, have their flanks altered without being purfy, especially vigorous horses that have worked too violently.

There is no better method to recover them, than to give each of them in the morning half a pound of honey very well mingled with scalded bran; and when they readily eat the half pound, give them the next time a whole one, and afterwards two pounds, every day continuing this course till your horses are empty, and purge kindly with it; but as soon as you perceive that their purging ceases, forbear to give them any more honey.

You may administer powder of liquorice in the scalded bran for a considerable time; and to cool their blood, it will not be improper to let them have three or four glisters.

In case the horse be very lean, it is expedient to give him some wet bran, over and above his proportion of oats; and grass is also extraordinary beneficial, if he be not purfy.

If it be a mare, put her to a horse; and if she never had a foal before, it will enlarge her belly.

Sometimes excessive feeding may do horses more harm than good, by rendering them subject to the farcy. You should therefore be cautious in giving them too great a quantity at a time, and take a little blood from them now and then.

When a horse begins to drink water heartily, it is a certain sign that he will recover in a short time. As to the method of giving him water during a journey, observe the following rules:

All the while you are upon a journey, let your horse drink of the first good water you come to, after seven o'clock in the morning if it be in summer-time, and after nine or ten in winter.

That is accounted good water which is neither too quick and piercing, nor too muddy and stinking.

This is to be done, unless you would have him gallop a long time after drinking; for if so, you must forbear.

Though it is the custom of England to run and gallop horses after drinking, which we call *watering-courses*, to bring them (as they say) into wind; yet, says M. de Solleysel, it is the most pernicious practice that can be imagined for horses, by which many are rendered purfy.

While a horse is drinking, draw up his head five or six times, making him move a little between every draught;

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draught; and notwithstanding he be warm, and sweat very much, yet if he is not quite out of breath, and you have still four or five miles to ride, he will be better after drinking a little, than if he had drank none at all: it is true, indeed, that if the horse is very warm, you should, at coming out of the water, redouble your pace, to make him go at a gentle trot, to warm the water in his belly.

You ought to let him drink after this manner during the whole time of your journey; because, if when you happen to bait he be hot or sweaty, you must not let him drink for a long time, as it would endanger his life; and when his bridle is taken off, his excessive thirst will hinder him from eating, so that he will not offer to touch his meat for an hour or two, which perhaps your occasions will not allow you for a baiting time, and not to have any food will render him unfit for travel.

If you meet with any ford before you come to your inn, ride the horse through it two or three times, but not up to his belly: this will only cleanse his legs; but the coldness of the water will bind up the humours, and prevent them from descending.

If your horse has been very warm, and you have not had the conveniency of watering him upon the road, he will, when unbridled, eat but very little; therefore he should have his oats given him washed in ale or beer, or only some of them, if you intend to feed him again after he has drank.

Some are of opinion, that horses are often spoiled by giving them oats before their water; because they say the water makes the oats pass too soon, and out of the stomach undigested. But M. de Solleysel affirms, that though it be the common custom not to do it till after, yet it is proper to feed with oats both before and after, especially if the horse be warm, and has been hard rode; for they will be a great deal the better for it, and in no danger of becoming sick.

Buffon's
Nat. Hist.

Breeding of HORSES. When the stallion is chosen, and all the mares intended for him are collected together, there must be another stone-horse, to discover which of the mares are in heat; and, at the same time, contribute to inflame them. All the mares are to be brought successively to this stone-horse; which should also be inflamed, and suffered frequently to neigh. As he is for leaping every one, such as are not in heat keep him off, whilst those which are so suffer him to approach them. But instead of being allowed to satisfy his impulse, he must be led away, and the real stallion substituted in his stead. This trial is necessary for ascertaining the true time of the mare's heat, especially of those which have not yet had a colt; for with regard to such as have recently foaled, the heat usually begins nine days after their delivery; and on that very day they may be led to the stallion to be covered; and nine days after, by the experiment above mentioned, it may be known whether they are still in heat. If they are, they must be covered a second time; and thus successively every ninth day while their heat continues: for when they are impregnated, their heat abates, and in a few days ceases entirely.

But that every thing may be done easily and conveniently, and at the same time with success and advantage, great attention, expence, and precaution are requisite. The stud must be fixed in a good soil,

and in a suitable place, proportioned to the number of mares and stallions intended to be used. This spot must be divided into several parts, inclosed with rails or ditches well fenced; in the part where the pasture is the richest, the mares in fold, and those with colts by their sides, are to be kept. Those which are not impregnated, or have not yet been covered, are to be separated, and kept with the fillies in another close, where the pasture is less rich, that they may not grow too fat, which would obstruct the progress of generation. Lastly, the young stone colts or geldings, are to be kept in the driest part of the fields, and where the ground is most unequal; that by running over the uneven surface, they may acquire a freedom in the motion of their legs and shoulders. This close, where the stone colts are kept, must be very carefully separated from the others, lest the young horses break their bounds, and enervate themselves with the mares. If the tract be so large as to allow of dividing each of these closes into two parts, for putting oxen and horses into them alternately, the pasture will last much longer than if continually eaten by horses; the ox improving the fertility, whereas the horse lessens it. In each of these closes should be a pond; standing water being better than running, which often gripes them: and if there are any trees in the ground, they should be left standing, their shade being very agreeable to the horses in great heats; but all stems or stumps should be grubbed up, and all holes levelled, to prevent accidents. In these pastures your horses should feed during the summer; but in the winter the mares should be kept in the stable and fed with hay. The colts also must be housed, and never suffered to feed abroad in winter, except in very fine weather. Stallions that stand in the stable should be fed more with straw than hay; and moderately exercised till covering time, which generally lasts from the beginning of April to the end of June. But during this season they should have no other exercise, and be plentifully fed, but with the same food as usual. Before the stallion is brought to the mare, he should be dressed, as that will greatly increase his ardour. The mare must also be curried, and have no shoes on her hind feet, some of them being ticklish, and will kick the stallion. A person holds the mare by the halter, and two others lead the stallion by long reins; when he is in a proper situation, another assistant carefully directs the yard, pulling aside the mare's tail, as a single hair might hurt him dangerously. It sometimes happens that the stallion does not complete the work of generation, coming from the mare without making any injection: it should therefore be attentively observed, whether, in the last moments of the copulation, the dock of the stallions tail has a vibrating motion; for such a motion always accompanies the emission of the seminal lymph. If he has performed the act, he must on no consideration be suffered to repeat it; but be lead away directly to the stable, and there kept two days. For, however able a good stallion may be of covering every day during the three months, it is much better to let him be led to a mare only every other day: his produce will be greater, and he himself less exhausted. During the first seven days, let four different mares be successively brought to him; and the ninth day let the first be again brought, and so successively while they continue in heat: but as soon

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soon

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soon as the heat of any one is over, a fresh mare is to be put in her place, and covered in her turn every nine days; and as several retain even at the first, second, or third time, it is computed that a stallion, by such management, may, during the three months, cover 15 or 18 mares, and beget 10 or 12 colts. These animals have a very large quantity of the seminal lymph; so that a considerable portion of it is shed during the emission. In the mares likewise is an emission, or rather distillation of the seminal lymph, during the whole time they are horsing; ejecting a viscid whitish lymph, called the *beats*, which cease on conception. This ichor the Greeks called *hippomanes*; and pretended that philtres might be made of it, one remarkable effect of which was, to render a horse frantic with lust. This *hippomanes* is very different from that found in the secundines of the foal, which M. Daubenton first discovered, and has so accurately described its nature, origin, and situation. The ejection of this liquor is the most certain sign of the mare's heat; but it is also known by the inflation of the lower part of the vulva, by her frequent neighings, and attempts to get to the horses. After being covered, nothing more is requisite than to lead her away to the field. The first foal of a mare is never so strongly formed as the succeeding; so that care should be taken to procure for her, the first time, a larger stallion, that the defect of the growth may be compensated by the largeness of the size. Particular regard should also be had to the difference or congruity of the fashion of the stallion and the mare, in order to correct the faults of the one by the perfections of the other: especially never to make any disproportionate copulations, as of a small horse with a large mare, or a large horse with a small mare; as the produce of such copulation would be small, or badly proportioned. It is by gradations that we must endeavour to arrive at natural beauty: for instance, to give to a mare a little too clumsy, a well-made horse and finely shaped; to a small mare, a horse a little higher; to a mare which is faulty in her forehead, a horse with an elegant head and noble chest, &c.

It has been observed, that horses fed in dry and light grounds, produce temperate, swift, and vigorous foals, with muscular legs and a hard hoof; while the same bred in marshes and moist pastures have produced foals with a large heavy head, a thick carcase, clumsy legs, bad hoofs, and broad feet. These differences proceed from the air and food, which is easily understood; but what is more difficult to be accounted for, and still more essential than what we have hitherto observed, is, to be continually crossing the breed to prevent a degeneracy.

In coupling of horses, the colour and size should be suited to each other, the shape contrasted, and the breed crossed by an opposition of climates: but horses and mares foaled in the same stud should never be joined. These are essential articles; but there are others which should by no means be neglected: as that no short-docked mares be suffered in a stud, because from their being unable to keep off the flies, they are much more tormented by them than others which have a long sweeping tail; and their continual agitations from the stings of these insects, occasions a diminution in the quantity

of their milk, and has a great influence on the constitution and size of the colt, which will be vigorous in proportion as its dam is a good nurse. Care must also be taken, that the stud mares be such as have been always brought up in pastures, and never over-worked. Mares which have always been brought up in the stable on dry food, and afterwards turned to grass, do not breed at first: some time is required for accustoming them to this new aliment.

Though the usual season for the heat of mares be from the beginning of April to the end of June, yet it is not uncommon to find some among a large number that are in heat before that time: but it is advisable to let this heat pass over without giving them to the stallion, because they would foal in winter; and the colts, besides the inclemency of the season, would have bad milk for their nourishment. Again, if the mares are not in heat till after the end of June, they should not be covered that season; because the colts being foaled in summer, have not time for acquiring strength sufficient to repel the injuries of the following winter.

Many, instead of bringing the stallion to the mare, turn him loose into the close, where all the mares are brought together; and there leave him to choose such as will stand to him. This is a very advantageous method for the mares: they will always take horse more certainly than in the other; but the stallion, in six weeks, will do himself more damage than in several years by moderate exercise, conducted in the manner we have already mentioned.

When the mares are pregnant, and their belly begins to swell, they must be separated from those that are not, lest they hurt them. They usually go 11 months and some days; and foal standing, whereas most other quadrupeds lie down. Those that cannot foal without great difficulty, must be assisted; the foal must be placed in a proper situation; and sometimes, if dead, drawn out with cords. The head of the colt usually presents itself first, as in all other animals: at its coming out of the matrix, it breaks the secundines or integuments that inclose it, which is accompanied with a great flux of the lymph contained in them; and at the same time one or more solid lumps are discharged, formed by the sediment of the inspissated liquor of the allantoides. This lump, which the ancients called the *hippomanes* of the colt, is so far from being, as they imagined, a mass of flesh adhering to the head of the colt, that it is separated from it by a membrane called *amnois*. As soon as the colt is fallen, the mare licks it, but without touching the *hippomanes*; which points out another error of the ancients, who affirmed that she instantly devours it.

The general custom is to have a mare covered nine days after her foaling, that no time may be lost; but it is certain, that the mare having, by this means, both her present and future foal to nourish, her ability is divided, and she cannot supply both so largely as she might one only. It would therefore be better, in order to have excellent horses, to let the mares be covered only every other year; they would last the longer, and bring foals more certainly: for, in common studs, it is so far from being true that all mares which have been covered bring colts every year, that it is considered

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Mares, when pregnant, will admit of copulation; but it is never attended with any superfoetation. They usually breed till they are 14 or 15 years of age; and the most vigorous till they are above 18. Stallions, when well managed, will engender till the age of 20, and even beyond; but it must be observed, that such horses as are soonest made stallions, are also the soonest incapable of generation: thus the large horses, which acquire strength sooner than the slender, and are therefore often used as stallions as soon as they are four years old, are incapable of generation before they are sixteen.

Gelding of HORSES. See GELDING.

Rearing of HORSES. See COLT.

Draught-HORSE, in farming, a sort of coarse-made horse destined for the service of the cart or plough. In the choice of these horses for what is called the *slow draught*, they are to be chosen of an ordinary height; for otherwise, when put into the cart, one draws unequally with the other. The draught-horse should be large bodied and strong loined, and of such a disposition, as rather to be too dull than too brisk, and rather to crave the whip than to draw more than is needful. Mares are the fittest for this use for the farmer, as they will be kept cheap, and not only do the work, but be kept breeding, and give a yearly increase of a foal. They should have a good head, neck, breast, and shoulders; for the rest of the shape, it is not of much consequence. Only, for breeding, the mare should have a large belly; for the more room a foal has in the dam, the better proportioned it will be. Draught-horses should be always kept to that employ. Some put them to the saddle on occasion, but it does them great harm, alters their pace, and spoils them for labour. The draught horse ought to have a large broad head, because horses of this shaped head are less subject than others to diseases of the eyes. The ears should be small, straight and upright; the nostrils large and open, that he may breathe with the more freedom. A horse with a full and bold eye always promises well. On the other hand, a sunk eye and an elevated brow are bad signs. The horse is esteemed fittest for this purpose also, that has a large and round buttock, which neither sinks down nor cuts. He must have a firm and strong tail, and the dock must be thick and well furnished with hair, and placed neither very high nor very low. The legs should be rather flat and broad than round: the roundness of the leg being a fault in a horse destined to labour that will soon ruin him. As to the hinder legs, the thighs should be fleshy and long, and the whole muscle which shows itself on the outside of the thigh should be large and very thick. No country can bring a parallel to the size and strength of our horses destined for the draught. In London there are instances of single horses that are able to draw on a plain, for a small space, the weight of three tons, and which can with ease, and for continuance, draw half that weight. The pack horses of Yorkshire usually carry a burden of 420 lb. over the highest hills of the north, as well as the most level roads: but the most remarkable proof of the strength of our British horses is derived from that of our mill horses; some of which will at one load carry 13 measures, which at

a moderate computation of 70 lb. each, will amount to 910 lb. Nothing is so essential to the health of these serviceable creatures as cleanliness; if they are fed ever so well, and not kept clean, they will be subject to numerous diseases.

The servant who has the care of them ought to be up very early, and to clean the racks and mangers from all filth. The currying of them ought to be carefully performed every morning, but not in the stable, for the dust to fall upon the other horses, as it is too often done. After the horses are dusted, they should daily twist a whisp of straw hard up, and wetting it in water, rub the legs, shoulders and body with it. Many of the diseases of draught-horses, which are not owing to nastiness, are owing to bad water; such as are two raw, too muddy, or too cold, being all improper. If there be any running stream in the neighbourhood, they should always be led to that to water every day in summer, but in winter, well-water is warmish, and is better for them. If there be a necessity of giving them well-water in summer, it must be drawn up some hours before the time, and exposed to the sun-beams in tubs or troughs; marsh-water or that of lowland ditches is worst of all. When the labouring horse has drank his water, he should have his oats given him, and these should be carefully sifted, and the manger dusted first. It is a common practice, as soon as a horse is come in from his work, to rub down his legs with a hard whisp of hay; but the best judges of horses absolutely condemn this, and observe, that this rubbing of the legs after hard labour brings down humours into them, and makes them stiff.

The rubbing itself is wholesome, but the doing it when the creature is hot is the mischief; while a horse is in a sweat it is a great relief and refreshment to him to have his body rubbed down, but when he is cold is the proper time to rub his legs. The racks are to be well supplied with hay, and the horses should be left to rest and eat, about two hours, and then led to water; after this their oats should be given them, and they should then go to work again.

In the evening, when the labour of the day is over, the first thing to be done is to examine the feet, and see if any thing is amiss about the shoes, and what earth or gravel is lodged in the foot, between the shoe and the sole, is to be picked out and some fresh cow-dung put in its place, which will cool and refresh the part.

A very material thing for the preservation of all sorts of cattle, but of none so much as draught-horses, is fresh and clean litter.

HORSE-Chestnut. See *ÆSCULUS*, and *HIPPOCASTANUM*.

HORSE-Guards. See *GUARDS*.

HORSE-Hunting. See *HUNTER*.

HORSE-Measure is a rod of box to slide out of a cane, with a square at the end, being divided into hands and inches to measure the height of horses.

HORSE-Muscle. See *MYTULUS*.

Race HORSE. See *RACING*.

HORSE-Radish. See *COCHLEARIA*.

HORSE-Shoe, a cover or defence for the sole of a horse's foot. See *FARRIERY*, p 167.

HORSE-shoe head, a disease in infants, wherein the sutures of the skull are too open, or too great a vacuity is left between them; so that the aperture shall not

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be totally closed up, or the cranium in that part not be so hard as the rest for some years after. This openness is found to be increased upon the child's catching cold. When the disease continues long, it is reputed a sign of weakness and short life. In this case, it is usual to rub the head now and then with warm rum or brandy, mixed with the white of an egg and palm-oil. Sometimes the disorder arises from a collection of waters in the head called an *hydrocephalus*.

Stone-Horse. See STALLION.

Horse-Tail. See EQUISETUM and EPHEDRA.

Horse-Vetch. See HIPPOCREPIS.

War-Horse. The proper rules for choosing a horse for service in war, are these: he should be tall in stature, with a comely head, and out-swelling forehead. His eye should be bright and sparkling, and the white part of it covered by the eye brow. The ears should be small, thin, short, and pricking; or if long, they should be moveable with ease, and well carried. The neck should be deep, and the breast large and swelling. The ribs bending, the chine broad and straight, and the buttocks round and full. The tail should be high and broad, neither too thick nor too thin; the thigh swelling; the leg broad and flat, and the pastern short. When such a horse is chosen, he must be kept high during the time of his teaching, that he may be full of vigour. His food must be sweet hay, and good clean oats, or two parts of oats and one part of beans or pease, well dried and hardened. The quantity should be half a peck in the morning, and the same quantity at noon and in the evening. Upon his resting days he is to be dressed between five and six in the morning, and watered at seven or eight. In the evening he is to be dressed at four, and watered about five, and he must always have provender given him after watering; he must be littered about eight, and then must have food given him for all night. The night before he is ridden all his hay is to be taken away about nine o'clock, and he must have a handful or two of oats about four in the morning: when he has eaten these, he is to be turned upon the snaffle, and rubbed very well with dry cloths; then saddled, and made fit for his exercise. When he has performed this, he is to be brought sweating into the stable, and rubbed down with dry wisps. When this has been done, the saddle is to be taken off, and he is to be rubbed down with dry cloths; the housing cloth is then to be laid on; and the saddle being again laid on, he is to be walked gently about till thoroughly cool. After this, he must stand without meat two or three hours, then he must be fed; and in the afternoon he is to be rubbed and dressed as before, and watered in the usual manner.

Horse Worm, in natural history, a species of fly-worm called also *bott*, produced of eggs deposited by a two-winged fly of the shape and size of the humble bee in the intestines of horses. See BOTTS.

River-Horse, in zoology. See HIPPOPOTAMUS.

HORSE is also used in the military language, to express the cavalry; or the body of soldiers who serve on horseback.

The horse includes horse guards, horse grenadiers, and troopers. Dragoons are also frequently comprehended under this name, though they fight on foot: of these there are now 18 regiments; besides three re-

N^o 157.

iments of dragoon-guards raised in 1685. See GRADIER, DRAGOONS, and GUARDS.

Master of the Horse. See MASTER.

Light-Horse, are regiments of cavalry, mounted on light swift horses, whose men are small and lightly accoutred. They were first raised in 1757. The denomination arose hence, that anciently they were lightly armed, in comparison of the royal guards, which were armed at all points.

Hungarian Horse. See HUSSARS.

HORSE is also a term used in various arts and manufactories, for something that helps to sustain their work from the ground, for the more commodious working at it.

The horse used by tanners and skinners, also called the *leg*, is a piece of wood cut hollow and roundish, four or five feet long, and placed aslope; upon which they pare their skins to get off the dirt, hair, flesh, &c.

HORSE is also used in carpentry, for a piece of wood jointed across two other perpendicular ones, to sustain the boards, planks, &c. which make bridges over small rivers; and on divers other occasions.

HORSE, in sea language, is the name of a rope reaching from the middle of a yard to its extremity, or what is called the *yard-arm*, and depending about two or three feet under the yard, for the sailors to tread upon whilst they are loosing, reefing, or furling the sails, rigging out the fludding-sail booms, &c. In order, therefore, to keep the horse more parallel to the yard, it is usually suspended to it at proper distances, by certain ropes called stirrups, which hang about two feet under the yard, having an eye in their lower ends through which the horse passes.

HORSE is also a thick rope, extended in a perpendicular direction near the fore or after-side of a mast, for the purpose of hoisting or extending some sail upon it. When it is fixed before a mast, it is calculated for the use of a sail called the *square-sail*, whose yard being attached to the horse, by means of a traveller or bull's eye, which slides up and down occasionally, is retained in a steady position; either when the sail is set, or whilst it is hoisting or lowering. When the horse is placed abaft or behind a mast, it is intended for the try-sail of a snow, and is accordingly very rarely fixed in this position, except in those sloops of war which occasionally assume the form of snows, in order to deceive the enemy.

HORSE is also a cant name introduced into the management of lotteries, for the chance or benefit of a ticket or number for one or more days, upon condition, if it be drawn a prize within the time covenanted for, of returning to the seller an undrawn ticket.—To determine the value of a horse; multiply the amount of the prizes in the lottery by the time the horse is hired for; and from the product subtract the amount of the number of prizes by the value of an undrawn ticket into the time of the horse: the remainder being divided by the number of tickets into the whole time of drawing, the quotient is the value of the horse. See LOTTERY.

Horse-Bread. See BREAD.

Horse-Dung, in gardening, is of great use in making hot-beds, for the raising all sorts of early crops; as fallading, cucumbers, melons, asparagus, &c. for which

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Horse. which purposes no other kinds of dung will do so well. Horse dung ferments the strongest; and if mixed with litter and sea-coal ashes in a due proportion, will continue its heat much longer than any other sort of dung whatsoever: and afterward, when rotted, becomes an excellent manure for most sorts of land; more especially for such as are of a cold nature. For stiff clayey land, horse dung mixed with sea-coal ashes, and the cleansing of streets, will cause the parts to separate much sooner than any other compost: so that where it can be obtained in plenty, it is always to be recommended for such lands. See DUNG.

Horse. *Animated Horse-Hairs*, a term used to express a sort of long and slender water-worm, of a blackish colour, and so much resembling a horse-hair, that it is generally by the vulgar supposed to be the hair fallen from a horse's mane into the water as he drinks, and there animated by some strange power. Dr Lister has at large confuted this absurd opinion in the Philosophical Transactions.

Horse-Hair Worms. See AMPHIBÆNA.

Horse-Hoeing Husbandry. See AGRICULTURE, n^o 218.

H O R S E M A N S H I P;

Or, The Art of Riding, and of Training and Managing, HORSES.

**Breaking of
Horses.**

SECT. I. *The Method of preparing Horses to be mounted.*

THOUGH all horses are generally bought at an age when they have already been backed, they should be begun and prepared for the rider with the same care, gentleness, and caution, as if they had never been handled or backed, in order to prevent accidents, which might else arise from skittishness or other causes: and as it is proper that they should be taught the figure of the ground they are to go upon when they are at first mounted, they should be previously trotted in a *longe* on circles, without any one upon them.

**Earl of
Pembroke's
Directions.**

The manner of doing this is as follows: Put an easy *cavesson* upon the horse's nose, and make him go forwards round you, standing quiet and holding the *longe*; and let another man, if you find it necessary, follow him with a whip. All this must be done very gently, and but a little at a time: for more horses are spoiled by overmuch work, than by any other treatment whatever; and that by very contrary effects; for sometimes it drives them into vice, madness, and despair, and often stupifies and totally dispirits them.

The first obedience required in a horse is going forwards; till he perform this duty freely, never even think of making him rein back, which would inevitably make him restive: as soon as he goes forwards readily, stop and caress him. You must remember in this, and likewise in every other exercise, to use him to go equally well to the right and left; and when he obeys, caress him and dismiss him immediately. If a horse that is very young takes fright and stands still, lead on another horse before him, which probably will induce him instantly to follow. Put a snaffle in his mouth; and when he goes freely, saddle him, girthing him at first very loose. Let the cord, which you hold, be long and loose; but not so much so as to endanger the horse's entangling his legs in it. It must be observed, that small circles, in the beginning, would constrain the horse too much, and put him upon defending himself. No bend must be required at first: never suffer him to gallop false; but whenever he attempts it, stop him without delay, and then set him off afresh. If he gallops of his own accord, and true, permit him to continue it; but if he does it not volun-

tarily, do not demand it of him at first. Should he fly and jump, shake the cord gently upon his nose without jerking it, and he will fall into his trot again. If he stands still, plunges, or rears, let the man who holds the whip make a noise with it; but never touch him till it be absolutely necessary to make him go on. When you change hands, stop and caress him, and entice him by fair means to come up to you: for by presenting yourself, as some do, on a sudden before horses, and frightening them to the other side, you run a great risk of giving them a shyness. If he keeps his head too low, shake the *cavesson* to make him raise it; and in whatever the horse does, whether he walks, trots, or gallops, let it be a constant rule, that the motion be determined, and really such as is intended, without the least shuffling, pacing, or any other irregular gait.

**Of placing
the Rider.**

SECT. II. *The Method of placing the Rider and rendering him firm on Horseback, with some occasional Instructions for Riders and the Horses.*

It is necessary that the greatest attention, and the same gentleness that is used in teaching the horses, be observed likewise in teaching the rider, especially at the beginning. Every method and art must be practised to create and preserve, both in man and horse, all possible feeling and sensibility; contrary to the usage of most riding-masters, who seem industriously to labour at abolishing these principles both in the one and the other. As so many essential points depend upon the manner in which a man is at first placed on horseback, it ought to be considered and attended to with the strictest care and exactness.

The absurdity of putting a man, who perhaps has never before been upon a horse, on a rough trotting horse, on which he is obliged to stick with all the force of his arms and legs, is too obvious to need mentioning. This rough work, all at once, is plainly as detrimental at first, as it is excellent afterwards in proper time. No man can be either well or firmly seated on horseback, unless he be master of the balance of his body, quite unconstrained, with a full possession of himself, and at his ease; none of which requisites can he enjoy, if his attention be otherwise engaged; as it must wholly be in a raw, unsupplied, and un-

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prepared lad, who is put at once upon a rough horse; in such a distressful state, he is forced to keep himself on at any rate, by holding to the bridle (at the expense of the sensibility both of his own hand and the horse's mouth), and by clinging with his legs, in danger of his life, and to the certain depravation of a right feeling in the horse.

The first time a man is put on horseback, it ought to be upon a very gentle one. He never should be made to trot, till he is quite easy in the walk; nor gallop, till he is able to trot properly. The same must be observed in regard to horses; they should never be made to trot till they are obedient, and their mouths are well formed on a walk, nor be made to gallop, till the same be effected on a trot. When he is arrived at such a degree of firmness in his seat, the more he trots, and the more he rides rough horses, the better. This is not only the best method, but also the easiest and the shortest: by it a man is soon made sufficiently an horseman for a soldier; but by the other detestable methods that are commonly used, a man, instead of improving, contracts all sorts of bad habits, and rides worse and worse every day; the horse too becomes daily more and more unfit for use. In proceeding according to the manner proposed, a man is rendered firm and easy upon the horse, both his own and the horse's sensibility is preserved, and each in a situation fit to receive and practise all lessons effectually.

Among the various methods that are used of placing people on horseback, few are directed by reason. Before you let the man mount, teach him to know, and always to examine, if the curb be well placed, (that is, when the horse has a bit in his mouth, which at first he should not; but only a snaffle, till the rider is firm in his seat, and the horse also somewhat taught): likewise to know if the nose-band be properly tight; the throat-band loofish; and the mouth-piece neither too high nor too low in the horse's mouth, but rightly put so as not to wrinkle the skin nor to hang lax; the girths drawn moderately, but not too tight; and the crupper and the breast-plate properly adjusted. A very good and careful hand may venture on a bit at first, and succeed with it full as well as by beginning with a snaffle alone; only colts, indeed, it is better, in all schools whatsoever, to avoid any pressure on the bars just at first, which a curb, though ever so delicately used, must in some degree occasion. When the bridle, &c. have been well looked to, let the man approach the horse gently near the shoulder; then taking the reins and an handful of the mane in his left hand, let him put his foot softly in the left stirrup, by pulling it towards him, lest he touch the horse with his toe; then raising himself up, let him rest a moment on it with his body upright, but not stiff; and after that, passing his right leg clear over the saddle without rubbing against any thing, let him seat himself gently down. He must be cautious not to take the reins too short, for fear of making the horse rear, run, or fall back, or throw up his head; but let him hold them of an equal length, neither tight nor slack, and with the little finger betwixt them. It is fit that horses should be accustomed to stand still to be mounted, and not to stir till the rider pleases. All soldiers should be in-

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structed to mount and dismount equally well on both sides, which may be of great use in times of hurry and confusion. Then place the man in his saddle, with his body rather back, and his head held up with ease, without stiffness; seated neither forwards, nor very backwards; with the breast pushed out a little, and the lower part of the body likewise a little forwards; the thighs and legs turned in without constraint, and the feet in a straight line, neither turned in nor out. By this position, the natural weight of the thighs has a proper and sufficient pressure of itself, and the legs are in readiness to act when called upon: they must hang down easy and naturally; and be so placed, as not to be wriggling about, touching, and tickling, the horse's sides, but always near them in case they should be wanted, as well as the heels.

The body must be carefully kept easy and firm, and without any rocking when in motion; which is a bad habit very easily contracted, especially in galloping. The left elbow must be gently leant against the body, a little forwards: unless it be so rested, the hand cannot be steady, but will always be checking, and consequently have pernicious effects on the horse's mouth. And the hand ought to be of equal height with the elbow; if it were lower, it would constrain and confine the motion of the horse's shoulders: but, as the mouths of horses are different, the place of the hand also must occasionally differ: a leaning, low, heavy, fore-hand, requires a high hand; and a horse that pokes out his nose, a low one. The right-hand arm must be placed in symmetry with the left; only let the right hand be a little forwarder or backwarder, higher or lower, as occasions may require, in order that both hands may be free; both arms must be a little bent at the elbow, to prevent stiffness.

A soldier's right hand should be kept unemployed in riding; it carries the sword, which is a sufficient business for it.

There remains one farther observation, that ought not to be omitted, about the hand, that it must be kept clear of the body; *i. e.* about two inches and a half forwards from it, with the nails turned opposite to the belly, and the wrist a little rounded with ease; a position not less graceful than ready for slackening, tightening, and moving the reins from one side to the other, as may be found necessary.

When the men are well placed, the more rough trotting they have without stirrups the better; but with a strict care always, that their position be preserved very exactly. In all cases, great care must be taken to hinder their clinging with their legs: in short, no sticking by hands or legs is ever to be allowed of at any time. If the motion of the horse be too rough, slacken it, till the rider grows by degrees more firm; and when he is quite firm and easy on his horse in every kind of motion, stirrups may be given him; but he must never leave off trotting often without any.

The stirrups must be neither short nor long; but of such a length, that when the rider, being well placed, puts his feet into them (about one third of the length of each foot from the point of it), the points may be between two and three inches higher than the heels. The rider must not bear upon his stirrups, but only

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let the natural weight of his legs rest on them: For if he bears upon them he would be raised above and out of his saddle; which should never be, except in charging sword in hand, with the body inclined forwards at the very instant of attacking. Spurs may be given as soon as the rider is grown familiar with stirrups; or even long before, if his legs are well placed.

A hand should always be firm, but delicate: a horse's mouth should never be surprised by any sudden transition of it, either from slack to tight, or from tight to slack. Every thing in horsemanship must be effected by degrees, but at the same time with spirit and resolution. That hand which, by giving and taking properly, gains its point with the least force, is the best; and the horse's mouth, under this same hand's directions, will also consequently be the best, supposing equal advantages in both from nature. This principle of gentleness should be observed upon all occasions in every branch of horsemanship. Sometimes the right hand may be necessary, upon some troublesome horses, to assist the left: but the seldomer this is done, the better; especially in a soldier, who has a sword to carry, and to make use of.

The snaffle must on all occasions be uppermost; that is to say, the reins of it must be above those of the bridle, whether the snaffle or the bit be used separately, or whether they be both used together. When the rider knows enough, and the horse is sufficiently prepared and settled to begin any work towards suppling, one rein must be shortened according to the side worked to; but it must never be so much shortened, as to make the whole strength rest on that rein alone: for, not to mention that the work would be false and bad, one side of the horse's mouth would by that means be always deadened; whereas, on the contrary, it should always be kept fresh by its own play, and by the help of the opposite rein's acting delicately in a somewhat smaller degree of tension; the joint effect of which produces in a horse's mouth the proper, gentle, and easy, degree of *appui* or bearing.

A coward and a madman make alike bad riders, and are both alike discovered and confounded by the superior sense of the creature they are mounted upon, who is equally spoilt by both, though in very different ways. The coward, by suffering the animal to have his own way, not only confirms him in his bad habits, but creates new ones in him: and the madman, by false and violent motions and corrections, drives the horse, through despair, into every bad and vicious trick that rage can suggest.

It is very requisite in horsemanship, that the hand and legs should act in correspondence with each other in every thing; the latter always subservient and assistant to the former. Upon circles, in walking, trotting, or galloping, the outward leg is the only one to be used, and that only for a moment at a time, in order to set off the horse true, or put him right if he be false; and as soon as that is done, it must be taken away again immediately: but if the horse be lazy, or otherwise retains himself, both legs must be used and pressed to his sides at the same time together. The less the legs are used in general, the better. Very delicate

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good riders, with horses they have dressed themselves, will scarcely ever want their help. By the term *outward* is understood the side which is more remote from the centre; and by *inward* is meant the side next to the centre. In reining back, the rider should be careful not to use his legs, unless the horse backeth on his shoulders; in which case they must be both applied gently at the same time, and correspond with the hand. If the horse refuse to back at all, the rider's legs must be gently approached, till the horse lifts up a leg, as if to go forwards; at which time, when that leg is in the air, the rein of the same side with that leg which is lifted up, will easily bring that same leg backwards, and accordingly oblige the horse to back; but if the horse offers to rear, the legs must be instantly removed away. The inward rein must be tighter on circles, so that the horse may bend and look inwards; and the outward one crossed over a little towards it; and both held in the left hand.

Let the man and horse begin on very slow motions, that they may have time to understand and reflect on what is taught them; and in proportion as the effects of the reins are better comprehended, and the manner of working becomes more familiar, the quickness of motion must be increased. Every rider must learn to feel, without the help of the eye, when a horse goes false, and remedy the fault accordingly: this is an intelligence, which nothing but practice, application, and attention, can give, in the beginning on slow motions. A horse may not only gallop false, but also trot and walk false. If a horse gallops false, that is to say, if going to the right he leads with the left leg, or if going to the left he leads with the right; or in case he is disunited, *i. e.* if he leads with the opposite leg behind to that which he leads with before; stop him immediately, and put him off again properly. The method of effecting this, is by approaching your outward leg, and putting your hand outwards; still keeping the inward rein the shorter, and the horse's head inwards, if possible: and if he should still resist, then bend and pull his head outwards also; but replace it again, bent properly inwards, the moment he goes off true. A horse is said to be disunited to the right, when going to the right, and consequently leading with the right leg before, he leads with the left behind; and is said to be disunited to the left, when going to the left, and consequently leading with the left leg before, he leads with the right behind. A horse may at the same time be both false and disunited; in correcting both which faults, the same method must be used. He is both false and disunited to the right, when in going to the right he leads with the left leg before, and the right behind; notwithstanding that hinder leg be with propriety more forward under his belly than the left, because the horse is working to the right: And he is false and disunited to the left, when in going to the left he leads with the right leg before and the left behind; notwithstanding, as above, that hinder leg be with propriety more forward under his belly than the right, because the horse is working to the left.

In teaching men a right seat on horseback, the greatest attention must be given to prevent stiffness, and sticking by force in any manner upon any occasion:

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Horses.

tion: stiffness disgraces every right work; and sticking serves only to throw a man (when displaced) a great distance from his horse by the spring he must go off with: whereas, by a proper equilibrating position of the body, and by the natural weight only of the thighs, he cannot but be firm and secure in his seat.

As the men become more firm, and the horses more supple, it is proper to make the circles less; but not too much so, for fear of throwing the horses forwards upon their shoulders.

Some horses, when first the bit is put into their mouths, if great care be not taken, will put their heads very low. With such horses, raise your right hand with the *bridoon* in it, and play at the same time with the bit in the left hand, giving and taking.

On circles, the rider must lean his body inwards; unless great attention be given to make him do it, he will be perpetually losing his seat outwards. It is scarce possible for him to be displaced, if he leans his body properly inwards.

SECT. III. *The Method of suppling Horses with Men upon them, by the EPAULE en dedans, &c. with and without a Longe, on Circles and on straight Lines.*

WHEN a horse is well prepared and settled in all his motions, and the rider firm, it will be proper then to proceed on towards a farther suppling and teaching of both.

In setting out upon this new work, begin by bringing the horse's head a little more inwards than before, pulling the inward rein gently to you by degrees. When this is done, try to gain a little on the shoulders, by keeping the inward rein the shorter, as before, and the outward one crossed over towards the inward one. The intention of these operations is this: The inward rein serves to bring in the head, and procures the bend; whilst the outward one, that is a little crossed, tends to make that bend perpendicular, and as it should be, that is to say, to reduce the nose and the forehead to be in a perpendicular line with each other: it also serves, if put forwards, as well as also crossed, to put the horse forwards, if found necessary; which is often requisite, many horses being apt in this and other works rather to lose their ground backwards than otherwise, when they should rather advance; if the nose were drawn in towards the breast beyond the perpendicular, it would confine the motion of the shoulders, and have other bad effects. All other bends, besides what are above specified, are false. The outward rein, being crossed, not in a forward sense, but rather a little backwards, serves also to prevent the outward shoulder from getting too forwards, and makes it approach the inward one; which facilitates the inward leg's crossing over the outward one, which is the motion that so admirably supples the shoulders. Care must be taken, that the inward leg pass over the outward one, without touching it: this inward leg's crossing over must be helped also by the inward rein, which you must cross towards and over the outward rein every time the outward leg comes to the ground, in order to lift and help the inward leg over it: at any other time, but just when the outward leg comes to the ground, it would be wrong to cross the inward

rein, or to attempt to lift up the inward leg by it; nay, it would be demanding an absolute impossibility, and lugging about the reins and horse to no purpose: because in this case, a very great part of the horse's weight resting then upon that leg, would render such an attempt not only fruitless, but also prejudicial to the sensibility of the mouth, and probably oblige him to defend himself; and, moreover, it would put the horse under a necessity of straddling before, and also of leading with the wrong leg, without being productive of any suppling motion whatsoever.

When the horse is thus far familiarly accustomed to what you have required of him, then proceed to effect by degrees the same crossing in his hinder legs. By bringing in the fore-legs more, you will of course engage the hinder ones in the same work: if they resist, the rider must bring both reins more inwards; and, if necessary, put back also, and approach his inward leg to the horse; and if the horse throws out his croup too far, the rider must bring both reins outwards, and, if absolutely necessary, he must also make use of his outward leg, in order to replace the horse properly: observing that the croup should always be considerably behind the shoulders, which in all actions must go first; and the moment that the horse obeys, the rider must put his hand and leg again in their usual position.

Nothing is more ungraceful in itself, more detrimental to a man's seat, or more destructive of the sensibility of a horse's sides, than a continual wriggling unsettledness in a horseman's legs, which prevents the horse from ever going a moment together true, steady, or determined.

A horse should never be turned, without first moving a step forwards: and when it is doing, the rider must not lift his elbow, and displace himself; a motion only of the hand from the one side to the other being sufficient for that purpose. It must also be a constant rule, never to suffer a horse to be stopped, mounted, or dismounted, but when he is well placed. The slower the motions are when a man or horse is taught any thing, the better.

At first, the figures worked upon must be great, and afterwards made less by degrees, according to the improvement which the man and horse make; and the cadenced pace also, which they work in, must be accordingly augmented. The changes from one side to the other, must be in a bold determined trot, and at first quite straight forwards, without demanding any side-motion on two *pistes*, which is very necessary to require afterwards when the horse is sufficiently suppled. By two *pistes* is meant, when the fore-parts and hinder parts do not follow, but describe two different lines.

In the beginning, a *longe* is useful on circles, and also on straight lines, to help both the rider and the horse; but afterwards, when they are grown more intelligent, they should go alone. At the end of the lesson, rein back; then put the horse, by a little at a time, forwards, by approaching both legs gently to his sides, and playing with the bridle: if he rears, push him out immediately into a full trot. Shaking the *carrieffon* on the horse's nose, and also putting one's self before him and rather near to him, will generally make him back, though he otherwise refuse to do it: and moreover a slight use and approaching of the rider's legs,

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the Wall,
&c.

legs, will sometimes be necessary in backing, in order to prevent the horse from doing it too much upon his shoulders; but the pressure of the legs ought to be very small, and taken quite away the moment that he puts himself enough upon his haunches. If the horse does not back upon a straight line properly, the rider must not be permitted to have recourse immediately to his leg, and so distort himself by it; but first try, if crossing over his hand and reins to which ever side may be necessary, will not be alone sufficient: which most frequently it will; if not, then employ the leg.

After a horse is well prepared and settled, and goes freely on in all his several paces, he ought to be in all his works kept, to a proper degree, upon his haunches, with his hinder legs well placed under him; whereby he will be always pleasant to himself and his rider, will be light in hand, and ready to execute whatever may be demanded of him, with facility, vigour, and quickness.

The common method that is used, of forcing a horse sidewise, is a most glaring absurdity, and very hurtful to the animal in its consequences; for instead of suppling him, it obliges him to stiffen and defend himself, and often makes a creature that is naturally benevolent, restless, frightened, and vicious.

For horses, who have very long and high fore-hands, and who poke out their noses, a running snaffle is of excellent use; but for such as bore and keep their heads low, a common one is preferable; though any horse's head indeed may be kept up also with a running one, by the rider's keeping his hands very high and forwards: but whenever either is used alone without a bridle upon horses that carry their heads low and that bore, it must be sawed about from one side to the other.

This lesson of the *epaule en dedans* should be taught to such people as are likely to become useful in helping to teach men and to break horses; and the more of such that can be found the better: none others should ever be suffered upon any occasion to let their horses look any way besides the way they are going. But all horses whatever, as likewise all men who are designed for the teaching others, must go thoroughly and perfectly through this excellent lesson, under the directions of intelligent instructors, and often practise it too afterwards; and when that is done, proceed to and be finished by the lessons of head and tail to the wall.

SECT. IV. Of the Head to the Wall, and of the Croup to the Wall.

THIS lesson should be practised immediately after that of the *epaule en dedans*, in order to place the horse properly the way he goes, &c. The difference between the head to the wall, and the croup to the wall, consists in this; in the former, the fore-parts are more remote from the centre, and go over more ground; in the latter, the hinder parts are more remote from the centre, and consequently go over more ground: in both, as likewise in all other lessons, the shoulders must go first. In riding-horses, the head to the wall is the easier lesson of the two at first, the line to be worked upon being marked by the wall, not far from his head.

Of Head to
the Wall,
&c.

The motion of the legs to the right, is the same as that of the *epaule en dedans* to the left, and so *vice versa*; but the head is always bent and turned differently: in the *epaule en dedans*, the horse looks the contrary way to that which he goes; in this, he looks the way he is going.

In the beginning, very little bend must be required; too much at once would astonish the horse, and make him defend himself: it is to be augmented by degrees. If the horse absolutely refuses to obey, it is a sign that either he or his rider has not been sufficiently prepared by previous lessons. It may happen, that weakness or a hurt in some part of the body, or sometimes temper, though seldom, may be the cause of the horse's defending himself: it is the rider's business to find out from whence the obstacle arises; and if he finds it to be from the first mentioned cause, the previous lessons must be resumed again for some time; if from the second, proper remedies must be applied; and if from the last cause, when all fair means that can be tried have failed, proper corrections with coolness and judgment must be used.

In practising this lesson to the right, bend the horse to the right with the right rein; helping the left leg over the right (at the time when the right leg is just come to the ground), with the left rein crossed towards the right, and keeping the right shoulder back with the right rein towards your body, in order to facilitate the left leg's crossing over the right; and so likewise *vice versa* to the left, each rein helping the other by their properly mixed effects. In working to the right, the rider's left leg helps the hinder-parts on to the right, and his right leg stops them if they get too forwards; and so *vice versa* to the left: but neither ought to be used, till the hand being employed in a proper manner has failed, or finds that a greater force is necessary to bring about what is required than it can effect alone: for the legs should not only be corresponding with, but also subservient to, the hand; and all unnecessary aids, as well as all force, ought always to be avoided as much as possible.

In the execution of all lessons, the equilibrium of the rider's body is of great use to the horse: it ought always to go with and accompany every motion of the animal; when to the right, to the right; and when to the left, to the left.

Upon all horses, in every lesson and action, it must be observed, that there is no horse but has his own peculiar appui or degree of bearing, and also a sensibility of mouth, as likewise a rate of his own, which it is absolutely necessary for the rider to discover and make himself acquainted with. A bad rider always takes off at least the delicacy of both, if not absolutely destroys it. The horse will inform his rider when he has got his proper bearing in the mouth, by playing pleasantly and steadily with his bit, and by the spray about his chaps. A delicate and good hand will not only always preserve a light appui, or bearing, in its sensibility; but also of a heavy one, whether naturally so or acquired, make a light one. The lighter this appui can be made, the better; provided that the rider's hand corresponds with it; if it does not, the more the horse is properly prepared, so much the worse. Instances of this inconvenience of the best of appuis,

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Horses
stand Fire,
&c.

appuis, when the rider is not equally taught with the horse, may be seen every day in some gentlemen, who try to get their horses *bitted* as they call it, without being suitably prepared themselves for riding them: the consequence of which is, that they ride in danger of breaking their necks; till at length, after much hauling about, and by the joint insensibility and ignorance of themselves and their grooms, the poor animals gradually become mere senseless unfeeling posts; and thereby grow, what they call, *settled*. When the proper appui is found, and made of course as light as possible, it must not be kept duly fixed without any variation, but be played with; otherwise one equally-continued tension of reins would render both the rider's hand and the horse's mouth very dull. The slightest and frequent giving and taking is therefore necessary to keep both perfect.

Whatever pace or degree of quickness you work in, be it ever so fast, or ever so slow, it must be cadenced; time is as necessary for an horseman as for a musician.

This lesson of the head and of the tail to the wall, must be taught every soldier: scarce any manœuvre can be well performed without it. In closing and opening of files, it is almost every moment wanted.

SECT. V. *The Method of making Horses stand Fire, Noises, Alarms, Sights, &c.*

IN order to make horses stand fire, the sound of drums, and all sorts of different noises, you must use them to it by degrees in the stable at feeding-time; and instead of being frightened at it, they will soon come to like it as a signal for eating.

With regard to such horses as are afraid of burning objects, begin by keeping them still at a certain distance from some lighted straw: caress the horse; and in proportion as his fright diminishes, approach gradually the burning straw very gently, and increase the size of it. By this means he will very quickly be brought to be so familiar with it, as to walk undaunted even through it.

As to horses that are apt to lie down in the water, if animating them, and attacking them vigorously, should fail of the desired effect, then break a straw-bottle full of water upon their heads, and let the water run into their ears, which is a thing they apprehend very much.

All troop-horses must be taught to stand quiet and still when they are shot off from, to stop the moment you present, and not to move after firing till they are required to do it; this lesson ought especially to be observed in light troops: in short, the horses must be taught to be so cool and undisturbed, as to suffer the rider to act upon him with the same freedom as if he was on foot. Patience, coolness, and temper, are the only means requisite for accomplishing this end. Begin by walking the horse gently, then stop and keep him from stirring for some time, so as to accustom him by degrees not to have the least idea of moving without orders: if he does, then back him; and when you stop him, and he is quite still, leave the reins quite loose.

To use a horse to fire-arms, first put a pistol or a carabine in the manger with his feed; then use him to the sound of the lock and the pan; after which,

when you are upon him, show the piece to him, presenting it forwards, sometimes on one side, sometimes on the other: when he is thus far reconciled, proceed to flash in the pan; after which, put a small charge into the piece, and so continue augmenting it by degrees to the quantity which is commonly used: if he seems uneasy, walk him forward a few steps slowly; and then stop, back, and caress him. Horses are often also disquieted and unsteady at the flash, and drawing, and returning of swords; all which they must be familiarized to by little and little, by frequency and gentleness.

It is very expedient for all cavalry in general, but particularly for light cavalry, that their horses should be very ready and expert in leaping over ditches, hedges, gates, &c. The leaps, of whatever sort they are, which the horses are brought to in the beginning, ought to be very small ones; the riders must keep their bodies back, raise their hands a little in order to help the fore-parts of the horse up, and be very attentive to their equilibrium. It is best to begin at a low bar covered with furze, which pricking the horse's legs, if he does not raise himself sufficiently, prevents his contracting a sluggish and dangerous habit of touching, as he goes over, which any thing yielding and not pricking would give him a custom of doing. Let the ditches you first bring horses to be narrow; and in this, as in every thing else, let the increase be made by degrees. Accustom them to come up to every thing which they are to leap over, and to stand coolly at it for some time; and then to raise themselves gently up in order to form to themselves an idea of the distance. When they leap well standing, then use them to walk gently up to the leap, and to go over it without first halting at it; and after that practice is familiar to them, repeat the like in a gentle trot, and so by degrees faster and faster, till at length it is as familiar to them to leap flying on a full gallop as any other way: all which is to be acquired with great facility by calm and soft means, without any hurry.

As horses are naturally apt to be frightened at the sight and smell of dead horses, it is advisable to habituate them to walk over and leap over carcases of dead horses: and as they are particularly terrified at this sight, the greater gentleness ought consequently to be used.

Horses should also be accustomed to swim, which often may be necessary upon service; and if the men and horses both are not used to it, both may be frequently liable to perish in the water. A very small portion of strength is sufficient to guide a horse, anywhere indeed, but particularly in the water, where they must be permitted to have their heads, and be no-ways constrained in any shape.

The unreasonable rage in Britain of cutting off all extremities from horses, is in all cases a very pernicious custom. It is particularly so in regard to a troop-horse's tail. It is almost incredible, how much they suffer at the picket for want of it: constantly fretting, and sweating, kicking about and laming one another, tormented, and stung off their meat, miserable, and helpless; whilst other horses, with their tails on, brush off all flies, are cool and at their ease, and mend daily; whilst the docked ones grow every hour more and more out of condition.

To make
Horses
stand Fire,
&c.

Of reining
back, &c.

SECT. VI. *The Method of reining back,—and of moving forwards immediately after;—of Piafing,—of Pillars, &c.*

NEVER finish your work by reining back with horses that have any disposition towards retaining themselves; but always move them forwards, and a little upon the haunches also, after it, before you dismount, (unless they retain themselves very much indeed, in which case nothing at all must be demanded from the haunches). This lesson of reining back, and piafing, is excellent to conclude with, and puts an horse well and properly on the haunches: It may be done, according as horses are more or less suppled, either going forwards, backing, or in the same place: if it is done well advancing, or at most on the same spot, it is full sufficient for a soldier's horse: For to piafe in backing, is rather too much to be expected in the hurry which cannot but attend such numbers both of men and horses as must be taught together in regiments. This lesson must never be attempted at all, till horses are very well suppled, and somewhat accustomed to be put together; otherwise it will have very bad consequences, and create restiveness. If they refuse to back, and stand motionless, the rider's legs must be approached with the greatest gentleness to the horse's sides; at the same time that the hand is acting on the reins to solicit the horse's backing. This seldom fails of procuring the desired effect, by raising one of the horse's fore-legs, which being in the air, has no weight upon it, and is consequently very easily brought backwards by a small degree of tension in the reins. When this lesson is well performed, it is very noble and useful, and has a pleasing air; it is an excellent one to begin teaching scholars with.

The lesson is particularly serviceable in the pillars, for placing scholars well at first. Very few regimental riding-houses have pillars, and it is fortunate they have not: for though, when properly made use of with skill, they are one of the greatest and best discoveries in horsemanship; they must be allowed to be very dangerous and pernicious, when they are not under the direction of a very knowing person.

SECT. VII. *The Method of curing Restivenesses, Vices, Defences, Starting, &c.*

WHENEVER a horse makes resistance, one ought, before remedy or correction is thought of, to examine very minutely all the tackle about him, if any thing hurts or tickles him, whether he has any natural or accidental weakness, or in short any the least impediment in any part. For want of this precaution, many fatal disasters happen: the poor dumb animal is frequently accused falsely of being restive and vicious; is used ill without reason; and, being forced into despair, is in a manner obliged to act accordingly, be his temper and inclination ever so well disposed. It is very seldom the case, that a horse is really and by nature vicious; but if such be found, he will despise all caresses, and then chastisements become necessary.

Correction, according as you use it, throws a horse into more or less violent action, which, if he be weak, he cannot support: but a vicious strong horse is to be considered in a very different light, being able both

to undergo and consequently to profit by all lessons; and is far preferable to the best-natured weak one upon earth. Patience and attention are never failing means to reclaim such a horse: in whatsoever manner he defends himself, bring him back frequently with gentleness (not however without having given him proper chastisement if necessary) to the lesson which he seems most averse to. Horses are by degrees made obedient, through the hope of recompense and the fear of punishment: how to mix these two motives judiciously together, is a very difficult matter; it requires much thought and practice; and not only a good head, but a good heart likewise. The coolest and best-natured rider will always succeed best. By a dexterous use of the incitements above-mentioned, you will gradually bring the horse to temper and obedience; mere force, and want of skill and coolness, would only tend to confirm him in bad tricks. If he be impatient or choleric, never strike him, unless he absolutely refuse to go forwards; which you must resolutely oblige him to do, and which will be of itself a correction, by preventing his having time to meditate and put in execution any defence by retaining himself. Resistance in horses, you must consider, is sometimes a mark of strength and vigour, and proceeds from spirit, as well as sometimes from vice and weakness. Weakness frequently drives horses into viciousness, when any thing wherein strength is necessary is demanded from them; nay, it inevitably must: great care therefore should always be taken to distinguish from which of these two causes any remedy or punishment is thought of. It may sometimes be a bad sign when horses do not at all defend themselves, and proceed from a sluggish disposition, a want of spirit, and of a proper sensibility. Whenever one is so fortunate as to meet with a horse of just the right spirit, activity, delicacy of feeling, with strength and good nature, he cannot be cherished too much; for such a one is a rare and inestimable jewel, and, if properly treated, will in a manner do every thing of himself. Horses are oftener spoilt by having too much done to them, and by attempts to dress them in too great an hurry, than by any other treatment.

If after a horse has been well suppled, and there are no impediments, either natural or accidental, if he still persists to defend himself, chastisements then become necessary: but whenever this is the case, they must not be frequent, but always firm, though always as little violent as possible; for they are both dangerous and very prejudicial when frequently or slightly played with, and still more so when used too violently.

It is impossible, in general, to be too circumspect in lessons of all kinds, in aids, chastisements, or caresses. Some have quicker parts, and more cunning, than others. Many will imperceptibly gain a little every day on the rider. Various, in short, are their dispositions and capacities. It is the rider's business to find out their different qualities, and to make them sensible how much he loves them, and desires to be loved by them; but at the same time that he does not fear them, and will be master.

Plunging is a very common defence among restive and vicious horses: if they do it in the same place, or backing, they must, by the rider's legs and spurs, firmly

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Restiveness,
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firmly applied, be obliged to go forwards, and their heads kept up high. But if they do it flying forwards, keep them back, and ride them gently and very slow for a good while together. Of all bad tempers and qualities in horses, those which are occasioned by harsh treatment and ignorant riders are the worst.

Rearing is a bad vice, and, in weak horses especially, a very dangerous one. Whilst the horse is up, the rider must yield his hand; and when the horse is descending, he must vigorously determine him forwards: if this be done at any other time but whilst the horse is coming down, it may add a spring to his rearing, and make him fall backwards. With a good hand on them, horses seldom persist in this vice; for they are themselves naturally much afraid of falling backwards. If this method fails, you must make the horse kick up behind, by getting somebody on foot to strike him behind with a whip; or, if that will not effect it, by pricking him with a goad.

Starting often proceeds from a defect in the sight; which therefore must be carefully looked into. Whatever the horse is afraid of, bring him up to it gently; if you caress him every step he advances, he will go quite up to it by degrees, and soon grow familiar with all sorts of objects. Nothing but great gentleness can correct this fault; for if you inflict punishment, the apprehension of chastisement becomes prevalent, and causes more starting than the fear of the object. If you let him go by the object, without bringing him up to it, you increase the fault, and confirm him in his fear: the consequence of which is, he takes his rider perhaps a quite contrary way from what he was going, becomes his master, and puts himself and the person upon him every moment in great danger.

With such horses as are to a very great degree fearful of any objects, make a quiet horse, by going before them, gradually entice them to approach nearer and nearer to the thing they are afraid of. If the horse, thus alarmed, be undisciplined and headstrong, he will probably run away with his rider; and if so, his head must be kept up high, and the snaffle sawed backwards and forwards from right to left, taking up and yielding the reins of it, as also the reins of the bit: but this latter must not be sawed backwards and forwards like the snaffle, but only taken up and yielded properly. No man ever yet did, or ever will, stop a horse, or gain any one point over him, by main force, or by pulling a dead weight against him.

SECT. VIII. Rules for bad Horsemen.

Thomson's
Rules.

IN the first place, every horse should be accustomed to stand still when he is mounted. One would imagine this might be readily granted; yet we see how much the contrary is practised. When a gentleman mounts at a livery-stable, the groom takes the horse by the bit, which he bends tight round his under jaw: the horse striving to go on, is forced back; advancing again, he frets, as he is again stopped short, and hurt by the manner of holding him. The rider, in the mean time, mounting without the bridle, or at least holding it but slightly, is helped to it by the groom, who being thoroughly employed by the horse's flut-

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tering, has at the same time both bridle and stirrup to give. This confusion would be prevented, if every horse was taught to stand still when he is mounted. Plain Rules for bad Horsemen. Forbid your groom, therefore, when he rides your horse to water, to throw himself over him from a horse-block, and kick him with his leg, even before he is fairly upon him. This wrong manner of mounting is what chiefly teaches your horse the vicious habit against which we are here warning. On the other hand, a constant practice of mounting in the proper manner, is all that is necessary to prevent a horse's going on till the rider is quite adjusted in the saddle.

The next thing necessary therefore is, that the rider should mount properly. The common method is to stand near the croup or hinder part of the horse, with the bridle held very long in the right hand. By this manner of holding the bridle before you mount, you are liable to be kicked; and when you are mounted, your horse may go on some time, or play what gambols he pleases, before the rein is short enough in your hand to prevent him. It is common likewise for an awkward rider, as soon as his foot is in the stirrup, to throw himself with all his force to gain his seat; which he cannot do, till he hath first overbalanced himself on one side or the other: he will then wriggle into it by degrees. The way to mount with ease and safety is, to stand rather before than behind the stirrup. In this posture take the bridle short, and the mane together in your left hand, helping yourself to the stirrup with your right, so that your toe may not touch the horse in mounting. When your left foot is in the stirrup, move on your right, till you face the side of the horse, looking across over the saddle. Then with your right hand grasp the hinder part of the saddle; and with that and your left, which holds the mane and bridle, lift yourself upright on your left foot. Remain thus a mere instant on your stirrup, only so as to divide the action into two motions. While you are in this posture, you have a sure hold with both hands, and are at liberty, either to get safely down, or to throw your leg over and gain your seat. By this deliberate motion, likewise, you avoid, what every good horseman would endeavour to avoid, putting your horse into a flutter.

When you dismount, hold the bridle and mane together in your left hand, as when you mounted; put your right hand on the pommel of the saddle, to raise yourself; throw your leg back over the horse, grasp the hinder part of the saddle with your right hand, remain a moment on your stirrup, and in every respect dismount as you mounted; only what was your first motion when you mounted, becomes the last in dismounting. Remember not to bend your right knee in dismounting, lest your spur should rub against the horse.

It may be next recommended to hold your bridle at a convenient length. Sit square, and let not the purchase of the bridle pull forward your shoulder; but keep your body even, as it would be if each hand held a rein. Hold your reins with the whole grasp of your hand, dividing them with your little finger. Let your hand be perpendicular; your thumb will then be uppermost, and placed on the bridle. Bend your wrist

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wrist a little outward; and when you pull the bridle, raise your hand toward your breast, and the lower part of the palm rather more than the upper. Let the bridle be at such a length in your hand, as, if the horse should stumble, you may be able to raise his head, and support it by the strength of your arms, and the weight of your body thrown backward. If you hold the rein too long, you are subject to fall backward as your horse rises.

If, knowing your horse perfectly well, you think a tight rein unnecessary, advance your arm a little (but not your shoulder) towards the horse's head, and keep your usual length of rein. By this means, you have a check upon your horse, while you indulge him.

If you ride with a curb, make it a rule to hook on the chain yourself; the most quiet horse may bring his rider into danger, should the curb hurt him. If, in fixing the curb, you turn the chain to the right, the links will unfold themselves, and then oppose a farther turning. Put on the chain loose enough to hang down on the horse's under lip, so that it may not rise and press his jaw, till the reins of the bridle are moderately pulled.

If your horse has been used to stand still when he is mounted, there will be no occasion for a groom to hold him: but if he does, suffer him not to touch the reins, but that part of the bridle which comes down the cheek of the horse. He cannot then interfere with the management of the reins, which belongs to the rider only; and holding a horse by the curb (which is ever painful to him) is evidently improper when he is to stand still.

Another thing to be remembered is, not to ride with your arms and elbows as high as your shoulders; nor let them shake up and down with the motion of the horse. The posture is unbecoming, and the weight of the arms (and of the body too if the rider does not sit still) acts in continual jerks on the jaw of the horse, which must give him pain, and make him unquiet, if he has a tender mouth or any spirit.

Bad riders wonder why horses are gentle as soon as they are mounted by skilful ones, tho' their skill seems unemployed: the reason is, the horse goes at his ease, yet finds all his motions watched; which he has sagacity enough to discover. Such a rider hides his whip, if he finds his horse is afraid of it; and keeps his legs from his sides, if he finds he dreads the spur.

Avoid the ungraceful custom of letting your legs shake against the sides of the horse: and as you are not to keep your arms and elbows high, and in motion; so you are not to rivet them to your sides, but let them fall easy. One may, at a distance, distinguish a genteel horseman from an awkward one: the first sits still, and appears of a piece with his horse; the latter seems flying off at all points.

It is often said with emphasis, that such a one has no seat on horseback; and it means, not only that he does not ride well, but that he does not sit on the right part of the horse. To have a good seat, is to sit on that part of the horse, which, as he springs, is the centre of motion; and from which, of course, any weight would be with most difficulty shaken. As in the rising and falling of a board placed in *equilibrium*, the centre will be always most at rest; the true seat

will be found in that part of your saddle, into which your body would naturally slide, if you rode without stirrups; and is only to be preserved by a proper poise of the body, though the generality of riders imagine it is to be done by the grasp of the thighs and knees. The rider should consider himself as united to his horse in this point; and when shaken from it, endeavour to restore the balance.

Perhaps the mention of the two extremes of a bad seat may help to describe the true one. The one is, when the rider sits very far back on the saddle, so that his weight presses the loins of the horse; the other, when his body hangs forward over the pommel of the saddle. The first may be seen practised by grooms, when they ride with their stirrups affectedly short; the latter, by fearful horsemen on the least flutter of the horse. Every good rider has, even on the hunting saddle, as determined a place for his thighs, as can be determined for him by the bars of a demi-peak. Indeed there is no difference between the seat of either: only, as in the first you ride with shorter stirrups, your body will be consequently more behind your knees.

To have a good seat yourself, your saddle must sit well. To fix a precise rule might be difficult: it may be a *direction*, to have your saddle press as nearly as possible on that part which we have described as the point of union between the man and horse; however, so as not to obstruct the motion of the horse's shoulders. Place yourself in the middle or lowest part of it: sit erect; but with as little constraint as in your ordinary sitting. The ease of action marks the gentleman: you may repose yourself, but not lounge. The set and studied erectness acquired in the riding-house, by those whose deportment is not easy, appears ungentle and unnatural.

If your horse stops short, or endeavours by rising and kicking to unseat you, bend not your body forward, as many do in those circumstances: that motion throws the breech backward, and you off your fork or twist, and out of your seat; whereas, the advancing the lower part of your body, and bending back the upper part and shoulders, is the method both to keep your seat, and to recover it when lost. The bending your body back, and that in a great degree, is the greatest security in *flying* leaps; it is a security too, when your horse leaps *standing*. The horse's rising does not try the rider's seat; the lash of his hind legs is what ought chiefly to be guarded against, and is best done by the body's being greatly inclined back. Stiffen not your legs or thighs; and let your body be pliable in the loins, like the coachman's on his box. This loose manner of sitting will elude every rough motion of the horse; whereas the fixture of the knees, so commonly laid a stress on, will in great shocks conduce to the violence of the fall.

Was the cricket-player, when the ball is struck with the greatest velocity, to hold his hand firm and fixed when he receives it, the hand would be bruised, or perhaps the bones fractured by the resistance. To obviate this accident, he therefore gradually yields his hand to the motion of the ball for a certain distance; and thus by a due mixture of opposition and obedience, catches it without sustaining the least injury. The case is exactly the same in riding: the skilful horseman

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will recover his poise by giving some way to the motion; and the ignorant horseman will be flung out of his seat by endeavouring to be fixed.

Stretch not out your legs before you; this will push you against the back of the saddle: neither gather up your knees, like a man riding on a pack; this throws your thighs upwards: each practice unseats you. Keep your legs straight down; and sit not on the most fleshy part of the thighs, but turn them inwards, so as to bring in your knees and toes: and it is more safe to ride with the ball of the foot pressing on the stirrup, than with the stirrup as far back as the heel; for the pressure of the heel being in that case behind the stirrup, keeps the thighs down.

When you find your thighs thrown upwards, widen your knees to get them and the upper part of your fork lower down on the horse. Grasp the saddle with the hollow or inner part of your thighs, but not more than just to assist the balance of your body: this will also enable you to keep your spurs from the horse's sides, and to bring your toes in, without that affected and useless manner of bringing them in practised by many. Sink your heels straight down; for while your heels and thighs keep down, you cannot fall: this (aided with the bend of the back) gives the security of a seat, to those who bear themselves up in their stirrups in a swift gallop, or in the alternate rising and falling in a full trot.

Let your seat determine the length of your stirrups, rather than the stirrups your seat. If more precision is requisite, let your stirrups (in the hunting saddle) be of such a length, as that, when you stand in them, there may be the breadth of four fingers between your seat and the saddle.

It would greatly assist a learner, if he would practise riding in a large circle, as directed sect. ii. without stirrups; keeping his face looking on the outward part of the circle so as not to have a full view of the horse's head, but just of that ear which is on the outward part of the circle; and his shoulder, which is towards the centre of the circle, very forward. By this means you learn to balance your body, and keep a true seat, independent of your stirrups: you may probably likewise escape a fall, should you at any time lose them by being accidentally shaken from your seat.

As the seat in some measure depends on the saddle, it may not be amiss to observe, that because a saddle with a high pommel is thought dangerous, the other extreme prevails, and the pommel is scarce allowed to be higher than the middle of the saddle. The saddle should lie as near the back-bone as can be, without hurting the horse; for the nearer you sit to his back, the better seat you have. If it does so, it is plain the pommel must rise enough to secure the withers from pressure: therefore, a horse whose withers are higher than common, requires a higher pommel. If, to avoid this, you make the saddle of a more straight line, the inconvenience spoken of follows; you sit too much above the horse's back, nor can the saddle form a proper seat. There should be no ridge from the button at the side of the pommel, to the back part of the saddle. That line also should be a little concave, for your thighs to lie at ease. In short, a saddle ought to be, as nearly as possible, as if cut out of the horse.

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When you want your horse to move forward, raise his head a little, and touch him gently with your whip; or else, press the calves of your legs against his sides. If he does not move fast enough, press them with more force, and so till the spur just touches him. By this practice he will (if he has any spirit) move upon the least pressure of the leg. Never spur him by a kick; but if it be necessary to spur him briskly, keep your heels close to his sides, and slacken their force as he becomes obedient.

When your horse attempts to be vicious, take each rein separate, one in each hand, and advancing your arms forward, hold him very short. In this case, it is common for the rider to pull him hard, with his arms low. But the horse by this means having his head low too, has it more in his power to throw out his heels: whereas, if his head be raised very high, and his nose thrown out a little, which is consequent, he can neither rise before nor behind; because he can give himself neither of those motions, without having his head at liberty. A plank placed in *equilibrio*, cannot rise at one end unless it sinks at the other.

If your horse is headstrong, pull not with one continued pull, but stop, and back him often, just shaking the reins, and making little repeated pulls till he obeys. Horses are so accustomed to bear on the bit when they go forward, that they are discouraged if the rider will not let them do so.

If a horse is loose-necked, he will throw up his head at a continued pull; in which situation, the rider, seeing the front of his face, can have no power over him. When your horse does thus, drop your hand and give the bridle play, and he will of course drop his head again into its proper place: while it is coming down, make a second gentle pull, and you will find his mouth. With a little practice, this is done almost instantaneously; and this method will stop, in the distance of a few yards, a horse, which will run away with those who pull at him with all their might. Almost every one must have observed; that when a horse feels himself pulled with the bridle, even when he is going gently, he often mistakes what was designed to stop him, as a direction to bear on the bit and to go faster.

Keep your horse's head high, that he may raise his neck and crest; play a little with the rein, and move the bit in his mouth, that he may not press on it in one constant and continued manner: be not afraid of raising his head too high; he will naturally be too ready to bring it down, and tire your arms with its weight, on the least abatement of his mettle. When you feel him heavy, stop him, and make him go back a few paces: thus you break by degrees his propensity to press on his bridle.

You ought not to be pleased (though many are) with a round neck, and a head drawn in towards his breast: let your horse carry his head bridling in, provided he carries it high, and his neck arching upwards; but if his neck bends downwards, his figure is bad, his sight is too near his toes, he leans on the bridle, and you have no command over him. If he goes pressing but lightly on the bridle, he is the more sure-footed, and goes pleasanter; as your wrist only may guide him. If he hangs down his head, and makes you support the weight of that and his neck with your arms bear-

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ing on his fore-legs, (which is called *being on his shoulders*), he will strike his toes against the ground, and stumble.

If your horse is heavy upon the bit, tie him every day, for an hour or two, with his tail to the manger, and his head as high as you can make him lift it, by a rein on each post of the stall, tied to each ring of the snaffle bit.

Horse-breakers and grooms have a great propensity to bring a horse's head *down*, and seem to have no feat without a strong hold by the bridle. They know indeed, that the head should yield to the reins, and the neck form an arch; but do not take the proper pains to make it an arch *upward*. A temporary effect of attempting to raise a horse's head, may perhaps be making him push out his nose. They will here tell you, that his head is too high already; whereas it is not the distance from his *nose*, but from the *top* of his head to the ground, which determines the head to be high or low. Besides, although the fault is said to be in the manner of carrying the head, it should rather be said to be in that of the neck; for if the neck was raised, the head would be more in the position of one set on a well formed neck.

The design therefore of lifting up the head, is to raise the neck, and *thereby* bring in the head; for even while the bridle makes the same line from the rider's hand to the bit, the horse's nose may be either drawn in, or thrust out, according as his neck is raised or depressed. Instead of what has been here recommended, we usually see colts broke with their heads caved in very low, their necks stiff, and not in the least suppled. When the breaking-tackle is left off, and they are mounted for the road, having more food and rest, they frequently plunge, and a second breaking becomes necessary. Then, as few gentlemen can manage their own horses, they are put into the hands of grooms, from whom they learn a variety of bad habits.

If, on the other hand, your horse carries his head (or rather his nose) too high, he generally makes some amends by moving his shoulders lightly, and going safely. Attend to the cause of this fault. Some horses have their necks set so low on their shoulders, that they bend first down, then upwards, like a stag's. Some have the upper line of their necks, from their ears to their withers, too short. A head of this sort cannot possibly bend inwards and form an arch, because the vertebræ (or neck bones) are too short to admit of flexure; for in long and short necked horses the number of the vertebræ is the same. In some, the jaw is so thick, that it meets the neck, and the head by this means has not room to bend. On the other hand, some have the under line from the jaw to the breast so short, that the neck cannot rise.

In all these cases you may gain a *little* by a nice hand with an easy bit; but no curb, martingale, or other forcible method, will *teach* a horse to carry his head or neck in a posture which nature has made uneasy to him. By trying to pull in his nose farther than he can bear, you will add a bad habit to nature. You could not indeed *contrive* a more effectual method to make him continually toss his nose up, and throw his foam over you.

The rule already given to ride a loose-necked horse,

will be a proper one for all light-mouthed horses: one caution being added, which is, always to search whether his saddle or girths may not in some way pinch him; and whether the bit may not hurt his lip by being too high in his mouth: because, whenever he frets from either of these causes, his head will not be steady.

It is a common custom to be always pulling at the bridle, as if to set off to advantage either the spirit of the horse, or the skill of the rider. Our horses therefore are taught to hold their heads low, and pull so, as to bear up the rider from the saddle, standing in his stirrups, even in the gentlest gallop: how very improper is this, we are experimentally convinced, when we happen to meet with a horse which gallops otherwise. We immediately say, *he canters excellently*, and find the ease and pleasure of his motion. When horses are designed for the race, and swiftness is the only thing considered, the method may be a good one.

It is not to be wondered that *dealers* are always pulling at their horses; that they have the spur constantly in their sides, and are at the same time continually checking the rein: by this means they make them bound, and champ the bit, while their rage has the appearance of spirit. These people ride with their arms spread, and very low on the shoulders of their horses: this method makes them stretch their necks, and gives a better appearance to their fore-hands; it conceals also a thick jaw, which, if the head was up, would prevent its yielding to the bit; it hides likewise the ewe-neck, which would otherwise show itself. Indeed, if you have a horse unsteady to the bit, formed with a natural heavy head, or one which carries his nose obstinately in the air, you must find his mouth where you can, and make the best of him.

Many horses are taught to start by whipping them for starting. How is it possible they can know it is designed as a punishment? In the riding-house, you teach your horse to rise up before, and to spring and lash out his hinder legs, by whipping him when tied between two pillars, with his head a little at liberty. If he understood this to be a punishment for doing so, he would not by that method learn to do it. He seems to be in the same manner *taught* to spring and fly when he is frightened. Most horses would go quietly past an object they were beginning to fly from, if their riders, instead of gathering up their bridles, and showing themselves so ready, should throw the reins loose upon their necks.

When a horse starts at any thing on one side, most riders turn him out of the road, to make him go up to what he starts at: if he does not get the better of his fear, or readily comply, he generally goes past the object, making with his hinder parts, or croup, a great circle out of the road; whereas, he should learn to keep straight on, without minding objects on either side.

If he starts at any thing on the left, hold his head high, and keep it straight in the road, pulling it *from* looking at the thing he starts at, and keeping your right leg hard pressed against his side, towards his flank: he will then go straight along the road. By this method, and by turning his head a little more, he may be forced with his croup close up to what frightened him; for as his head is pulled one way, his croup necessarily turns the other. Always avoid a

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quarrel with your horse, if you can: if he is apt to start, you will find occasions enough to exercise his obedience, when what he starts at lies directly in his way, and you *must* make him pass; if he is not subject to start, you should not quarrel with him about a trifle.

It must be observed, however, that this rule in going past an object may perhaps be a little irregular in a managed horse, which will always obey the leg: but even such a horse, if he is really afraid, and not restive, it may not be amiss to make look another way; unless the object be something you would particularly accustom him to the sight of.

The case will also be different with a horse whose fear is owing to his being not used to objects; but such a one is not to be rode by any horseman to whom these rules are directed: the starting here meant arises merely from the horse's being pamper'd, and springing through liveliness.

The notion of the necessity of making a horse go immediately up to every thing he is afraid of, and not suffering him to become master of his rider, seems to be in general carried too far. It is an approved and good method to conquer a horse's fear of the sound of a drum, by beating one near to him at the time of feeding him: this not only familiarizes the noise to him, but makes it pleasant, as a fore-runner of his meat*; whereas, if he was whipped up to it, he might perhaps start at it as long as he lived. Might not this be applied to his starting at other things, and show that it would be better to suffer him (provided he does not turn back) to go a little from and avoid an object he has a dislike to, and to accustom him to it by degrees, convincing him, as it were, that it will not hurt him; than to punish him, quarrel with him, and perhaps submit to his will at last, while you insist on his overcoming his fear in an instant? If he sees a like object again, it is probable he will recollect his dread, and arm himself to be disobedient.

* See
sect. v.

We are apt to suppose that a horse fears nothing so much as his rider: but may he not, in many circumstances, be afraid of instant destruction? of being crushed? of being drowned? of falling down a precipice? Is it a wonder that a horse should be afraid of a loaded waggon? may not the hanging load seem to threaten the falling on him? There cannot be a rule more general, than, in such a case, to show him there is room for him to pass. This is done by turning his head a very little from the carriage, and pressing your leg, which is farthest from it, against his side.

A horse is not to stop without a sign from his rider.

—Is it not then probable, that when driven up to a carriage he starts at it, he conceives himself obliged either to attack or run against it? Can he understand the rider's spurring him with his face directed to it, as a sign for him to pass it? That a horse is easily alarmed for his face and eyes (he will even catch back his head from a hand going to caress him); that he will not go with any force, face to face, even to another horse (if in his power to stop); and that he sees perfectly sideways,—may be useful hints for the treatment of horses with regard to starting.

Though you ought not to whip a horse for starting, there can be no good effect from clapping his neck with your hand to encourage him. If one took any

notice of his starting, it should be rather with some tone of voice which he usually understood as an expression of dislike to what he is doing; for there is *opposition* mixed with his starting, and a horse will ever repeat what he finds has foiled his rider.

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Notwithstanding the directions above given, of not pressing a horse up to a carriage he starts at; yet if one which you apprehend will frighten him meets you at a narrow part of the road, when you have once let him know he is to pass it, be sure you remain determined, and press him on. Do this more especially when part of the carriage has already passed you: for if, when he is frightened, he is accustomed to go back, and turn round, he will certainly do it if he finds, by your hand slackening, and legs not pressing, that you are irresolute; and this at the most dangerous point of time, when the wheels of the carriage take him as he turns. Remember not to touch the curb rein at this time; it will certainly check him. It is not known to every one, that the person who would lead a horse by the bridle, should not turn his face to him when he refuses to follow him: if, besides this, he raises his arms, shows his whip, or pulls the bridle with jerks, he frightens the horse, instead of persuading him to follow; which a little patience may bring about.

Ride with a snaffle; and use your curb, if you have one, only occasionally. Choose your snaffle full and thick in the mouth, especially at the ends to which the reins are fastened. Most of them are made too small and long; they cut the horse's mouth, and bend back over the bars of his jaw, working like pincers.

The management of the curb is too nice a matter to enter on here, farther than to prescribe great caution in the use of it: a turn of the wrist, rather than the weight of your arm, should be applied to it. The elasticity of a rod, when it hath hooked a fish, may give you some idea of the proper play of a horse's head on his bridle; his spirit and his pliability are both marked by it.

A horse should never be put to do any thing in a curb which he is not ready at: you may force him, or pull his head any way with a snaffle; but a curb acts only in a straight line. It is true, that a horse will be turned out of one track into another by a curb, but it is because he knows it as a *signal*. When he is put to draw a chair, and does not understand the necessity he is then under of taking a larger sweep when he turns, you frequently see him *restive*, as it is then called: but put him on a snaffle, or buckle the rein to that part of the bit which does not curb him; and the horse submits to be pulled about, till he understands what is desired of him. These directions suppose your horse to have spirit, and a good mouth: if he has not, you must take him as he is, and ride him with such a bit as you find most easy to yourself.

When you ride a journey, be not so attentive to your horse's nice carriage of himself, as to your encouragement of him, and keeping him in good humour. Raise his head; but if he flags, you may indulge him with bearing a little more upon the bit than you would suffer in an airing. If a horse is lame, tender-footed, or tired, he naturally hangs upon his bridle.

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On a journey, therefore, his mouth will depend greatly on his strength and the goodness of his feet. Be then very careful about his feet, and let not a farrier spoil them. You will be enabled to keep them from danger, by the directions given under the article FARRIERY, p. 167.

Very few, although practised in riding, know they have any power over a horse but by the bridle; or any use for the spur, except to make him go forward. A little experience will teach them a farther use. If the left spur touches him (and he is at the same time prevented from going forward), he has a sign, which he will soon understand, to move sideways to the right. In the same manner to the left, if the right spur is closed to him: he afterwards, through fear of the spur, obeys a touch of the leg; in the same manner as a horse moves his croup from one side of the stall to the other, when any one strikes him with his hand. In short, his croup is guided by the leg, as his head is by the bridle. He will never disobey the leg, unless he becomes restive. By this means you will have a far greater power over him: he will move sideways, if you close one leg to him; and straight forward, if both: even when he stands still, your legs held near him will keep him on the watch; and with the slightest, unseen motion of the bridle upwards, he will raise his head, and show his forehead to advantage.

On this use of the legs of the rider, and guidance of the croup of the horse are founded all the *airs* (as the riding-masters express themselves) which are taught in the manege; the passage, or side-motion of troopers to close or open their files, and indeed all their evolutions. But the convenience of some degree of this discipline for common use is the reason of mentioning it here. It is useful if a horse is apt to stumble or start. If to the first, by pressing your legs to his flank, and keeping up his head, he is made to go light on his fore-legs, which is aiding and supporting him; and the same if he does actually stumble, by helping him at the very instant to exert himself, while as yet any part of him remains not irrecoverably impressed with the precipitate motion. Hence this use of the hand and legs of the rider is called *giving aids* to a horse; for, as to holding up the weight of a heavy unactive horse, by mere pulling, it is as impossible as to recover him when falling down a precipice.

A horse is supported and helped by the hands and legs of his rider in every action they require of him; hence he is said to perform his *airs* by the *aids* from his rider.

The same manner is useful if a horse starts. For if when he is beginning to fly to one side, you leg on the side he is flying to, he stops his spring immediately. He goes past what he started at, keeping straight on, or as you choose to direct him; and he will not fly back from any thing if you press him with both legs. You keep his haunches under him, going down a hill; help him on the side of a bank; more easily avoid the wheel of a carriage; and approach more gracefully and nearer to the side of a coach or horseman. When a pampered horse curvets irregularly, and twists his body to and fro, turn his head either to the right or left, or both alternately (but without letting him move out of the track), and press your leg to the opposite side: your horse cannot then spring on his hind-legs to one side, because your leg prevents him; nor to the other, because his head looks that way, and a horse does not start and spring to the side on which he looks. Here it may not be amiss to observe the impropriety of the habit which many riders have, of letting their legs shake against the sides of the horse: if a horse is taught, they are then continually pressing him to violent action; and if he is not, they render him insensible and incapable of being taught. The fretting of a hot horse will hence be excessive, as it can no otherwise be moderated than by the utmost stillness of the seat, hands, and legs of the rider.

Colts at first are taught to *bear* a bit, and by degrees to *pull* at it. If they did not press it, they could not be guided by it. By degrees they find their necks stronger than the arms of a man; and that they are capable of making great opposition, and often of foiling their riders. Then is the time to make them supple and pliant in every part. The part which of all others requires most this pliancy is the neck. Hence the metaphor of *stiff-necked* for *disobedient*. A horse cannot move his head but with the muscles of his neck: this may be called his *helm*; it guides his course, changes and directs his motion.

The use of this pliancy in the different parts and limbs of a horse has been already shown in a former section. The present section being directed to the *unexperienced* horseman, it may suffice to add, that his idea of suppleness need only be, that of an ability and readiness in a horse to move every limb, on a sign given him by the hands or legs of his rider; as also, to bend his body, and move in a short compass, quick and collected within himself, so as instantly to be able to perform any other motion.

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H O R

Horsham.

HORSHAM, a town of Sussex, seated near St Leonard's forest, 38 miles from London. It has its name from Horfa, brother to Hengist the Saxon; and is one of the largest towns in the county. It has sent members to parliament ever since the 30th of Edward I. and is the place where the county gaol is held, and often the assizes. It is a borough by prescription, with the title of two bailiffs and burgrave-holders within and without the borough, &c. who elect the members of

H O R

Horsius.

parliament, and they are returned by the bailiffs chose yearly by a court-leet of the lord of the manor, who return four candidates to the steward, and he nominates two of them for the office. Here is a very fine church, and a well endowed free-school. Great store of poultry is bought up for London at its market on Saturday, and it has a patent also for a monthly market.

HORSTIUS (James), professor of medicine in the university.

Horstius
Hortus.

university of Helmstadt, in the 16th century. He joined devotion with the knowledge and practice of physic. He carefully prayed to God to bless his prescriptions, and published a form of prayer upon this subject. He also wrote, 1. A treatise on the qualities of a good physician. 2. Another on the qualities of a good apothecary. 3. A treatise of the plague, in German. 4. A commentary in *libros Hippocratis de corde*, and other works.

HORSTIUS (Gregory), nephew of the former, called the *Æsculapius of Germany*, published several books, which are esteemed.

HORTAGILERS, in the grand signior's court, upholsterers, or tapestry-hangers. The grand signior has constantly 400 in his retinue when he is in the camp: these go always a day's journey before him, to fix upon a proper place for his tent, which they prepare first; and afterwards those of the officers, according to their rank.

HORTENSIUS (Quintus), a celebrated Roman orator, the cotemporary of Cicero, pleaded with universal applause at 19 years of age, and continued the same profession during 48 years. But being at last eclipsed by Cicero, he quitted the bar, and embraced a military life; became a military tribune, prætor, and afterwards consul, about 70 B. C. Cicero speaks of him in such a manner as makes us regret the loss of his orations. Hortensius had a wonderful memory, and delivered his orations without writing down a single word, or forgetting one particular that had been advanced by his adversaries. He died very rich, a little before the civil war, which he had endeavoured by all possible means to prevent.

HORTUS SICCUS, a DRY GARDEN; an appellation given to a collection of specimens of plants, carefully dried and preserved.

The value of such a collection is very evident, since 1000 minutæ may be preserved in the well dried specimens of plants, which the most accurate engraver would overlook. We shall therefore give two methods of drying and preserving a *hortus siccus*; the first by Sir Robert Southwell in *Philosophical Transactions*, n^o 237.; and the other by Dr Hill, in his review of the works of the Royal Society, with his objections to Sir Robert's method.

According to the former gentleman, the plants are to be laid flat between papers, and then put between two smooth plates of iron, screwed together at the corners; and in this condition committed to a baker's oven for two hours. When taken out, they are to be rubbed over with a mixture of equal parts of aquafortis and brandy; and after this to be fastened down on paper with a solution of the quantity of a walnut of gum tragacanth dissolved in a pint of water. See HERBAL.

To this the Doctor objects, that the heat of an oven is much too uncertain to be employed in so nice an operation; and that the space of time ordered for continuing the plants in it is of no information, unless the degree of heat, and even the different nature of the plant as to its succulency and the firmness or tenderness of its fibres, be attended to; there being scarcely any two plants alike in these particulars: consequently the degree and duration of heat sufficient for one plant would destroy another. Beside which,

the acid used destroys the colour of many plants; and never recovers that of others lost in the drying; and frequently after the plant is fixed down, rots both the paper it is fixed to, and that which falls over it. Dr Hill's method is as follows. Take a specimen of a plant in flower, and with it one of its bottom leaves if it have any; bruise the stalk if too rigid, or slit it if too thick: spread out the leaves and flowers on paper, cover it with more paper, and lay a weight over all. At the end of 18 hours take out the plants, now perfectly flattened, and lay them on a bed of dry common sand; sift more dry sand over them to the depth of two inches, and thus let them lie about three weeks: the less succulent dry much sooner, but they take no harm afterward. If the floor of a garret be covered in spring with sand two inches deep, leaving space for walking to the several parts, it will receive the collection of a whole summer; the covering of sand being sifted over every parcel as laid in, they need no farther care from the time of laying them till they are taken up to be stuck on paper. The cement used by the Doctor is thus prepared: early in the spring, put two ounces of camphor into three quarts of water in a large bottle, shake it from time to time, and when the first collected plants are ready for the fastening down, put into a pint of the water, poured off into an earthen vessel that will bear the fire, two ounces of common glue, such as is used by the carpenters, and the same quantity of ichthyocolla beat to shreds; let them stand 36 hours, then gently boil the whole a few moments, and strain it off through a coarse cloth: this is to be warmed over a gentle heat when it is to be used, and the back of the plants smeared over with a painter's brush: after this lay them on paper, and gently press them for a few minutes, then expose them to the air a little; and finally, lay them under a small weight between quires of paper to be perfectly dried.

It is scarce to be conceived how strongly the water becomes impregnated with the camphor by this simple process: a part of it indeed flies off in the making of the cement and the using of it: but enough remains with the plants to prevent the breeding of insects in it. He farther observes, that plants may be dried very well without sand, by only putting them frequently into fresh quires of paper, or a few, by only pressing them between the leaves of a book: but the sand method preserves the colour best, and is done with least trouble.

Another method much better than that of the oven is the flattening and drying the plant by passing a common smoothing iron for linen over the papers between which it is laid: but for nice things the most perfect of all methods is that by a common sand heat, such as is used for chemical purposes. The cold sand is to be spread smooth upon this occasion, the plant laid on it carefully flatted, and a thick bed of sand sifted over: the fire is then to be made, and the whole process carefully watched until by a very gentle heat the plant be carefully dried. The colour of the tenderest herb may by this manner be preserved; and flowers, that can no way else be preserved, may be managed perfectly well thus.

HORUS, a renowned deity of ancient Egypt. He was an emblem of the sun. Plutarch (in his treatise *de Iside et Osiride*) says, "that virtue which presides over

Hortus,
Horus.

Horus. over the sun, whilst he is moving through space, the Egyptians called *Horus* and the Greeks *Apollo*." Job also calls *Ur* or *Orus* the sun—"If I gazed upon the sun (*Ur, Orus*) when he was shining, or on (*Jarécha*) the moon walking in brightness, and my heart hath been severely enticed (*i. e.* to worship), or my mouth hath kissed my hand; this also were an iniquity to be punished by the judge, for I should have denied the God who is above." Chap. xxxi. ver. 26, 27, 28.

The interpretation left by Hermapion of the hieroglyphics engraved on the obelisk of Heliopolis (according to Ammianus Marcellinus), offers these remarkable words: "Horus is the supreme lord and author of time." These qualities, it is known, were chiefly attributed to Osiris: that they may apply, therefore, to Horus, he must necessarily denote the star of the day in certain circumstances; and this is what is explained to us by the oracle of Apollo of Claros:

Learn that the first of the gods is Jao.
He is called *invisible* in winter, Jupiter in the spring,
The *sun* in summer, and towards the end of autumn the tender *Jao*.

The star of the day, on attaining the summer solstice, and called *per excellentiam* The sun, is the same as Horus. In fact, the Egyptians represented him borne on lions, which signified his entrance into the sign of the lion. They who presided over the divine institutions, then placed sphynxes at the head of the canals and sacred fountains, to warn the people of the approaching inundation. Macrobius †, who informs us why the Greeks gave Horus the name of Apollo, confirms this sentiment: "In the mysteries (says he) they discover as a secret, which ought to be inviolable, that the sun arrived in the upper hemisphere, is called Apollo." These testimonies concur in proving, that this emblematical deity was no other than the star of day, passing through the signs of summer.

These lights may lead us to the explication of the sacred fable, which the priests published on the subject of Horus; for they enveloped in mystery every point of their religion. Plutarch gives it at length in his treatise of Isis and Osiris: Of the following are the principal traits. They said that he was the son of Osiris and of Isis; that Typhon, after killing his brother Osiris, took possession of the kingdom; that Horus, leaguering himself with Isis, avenged the death of his father, expelled the tyrant from his throne without depriving him of life, and reigned gloriously in Egypt. A person who has travelled ever so little in Egypt, easily discovers natural phenomena hid under the veil of fable. In the spring, the wind khamfin frequently makes great ravages there. It raises whirlwinds of burning sands, which suffocate travellers, darken the air, and cover the face of the sun in such a manner as to leave the earth in perfect obscurity. Here is the death of Osiris and the reign of Typhon. These hurricanes break loose usually in the months of February, March, and April. When the sun approaches the sign of the lion, he changes the state of the atmosphere, disperses these tempests, and restores the northerly winds, which drive before them the malignant vapours, and preserve in Egypt coolness and salubrity under a burning sky. This is the triumph of Horus over Typhon and his glorious reign. As the

natural philosophers acknowledge the influence of the moon over the state of the atmosphere, they united her with this god, to drive the usurper from the throne. The priests considering Osiris as the father of time, might bestow the name of his son on Horus, who reigned three months in the year. This, according to Mr Savary †, is the natural explication of this allegory. And all enlightened men, he thinks, must have understood this language, which was familiar to them. The people only, whose feeble sight extends no farther than the exterior, without diving into the true meaning of things, might regard these allegorical personages as real gods, and decree prayers and offerings to them.

Jablonski, who has interpreted the epithet of Arueri, which the Egyptians gave to Horus, pretends that it signifies *efficacious virtue*. These expressions perfectly characterise the phenomena which happened during the reign of this god. It is in summer, in fact, that the sun manifests all its power in Egypt. It is then that he swells the waters of the river with rains, exhaled by him in the air, and driven against the summits of the Abyssinian mountains; it is then that the husbandman reckons on the treasures of agriculture. It was natural for them to honour him with the name of *Arueri*, or *efficacious virtue*, to mark these auspicious effects.

HOSANNA, in the Hebrew ceremonies, a prayer which they rehearsed on the several days of the feast of tabernacles. It was thus called, because there was frequent repetition therein of the word שמענו, *serva nunc*, or *serva precor*; *i. e.* save us now; or, save us, we pray.

There are divers of these hosannahs. The Jews call them *hofchannoth*; *i. e.* the *hosannahs*. Some are rehearsed on the first day, others on the second, &c. which they call *hosanna* of the first day, *hosanna* of the second day, &c.

HOSANNA Rabba, or *Grand Hosanna*, is a name they give to their feast of tabernacles, which lasts eight days; because, during the course thereof, they are frequently calling for the assistance of God, the forgiveness of their sins, and his blessing on the new year; and to that purpose they make great use of the *hofchannoth*, or prayers above mentioned.—The Jews also apply the term *hosanna rabba*, in a more peculiar manner, to the seventh day of the feast of tabernacles; because they apply themselves more immediately on that day to invoke the divine blessing, &c.

HOSCHIUS (Sidronius), a jesuit, who was born at Marke, in the diocese of Ypres, in 1596, and died at Tongres in 1653. He wrote some elegies and other poems in Latin with great purity and elegance.

HOSE, from the Saxon *Hofa*, a stocking. See **STOCKING**.

HOSEA, a canonical book of the Old Testament, so called from the prophet of that name, its author, who was the son of Beri, and the first of the lesser prophets. He lived in the kingdom of Samaria, and delivered his prophecies under the reign of Jeroboam II. and his successors, kings of Israel; and under the reigns of Uzziah, Jotham, Ahaz, and Hezekiah, kings of Judah. His principal design is to publish the gross idolatries of the people of Israel and Judah, to denounce the divine vengeance against them, and to foretel the captivity in Assyria.

Hofanna
||
Hofea.

† Letters on
Egypt, II.
403.

† Saturnal,
lib. I.

Hospinian,
Hospital.

HOSPINIAN (Rodolphus), one of the greatest writers that Switzerland has given birth to. He was born in 1547, at Altorf near Zurich; obtained the freedom of Zurich; and was made provisor of the abbey school. Notwithstanding this employment, he undertook a noble work of vast extent, which was a *History of the Errors of Popery*. Though he could not complete this work according to his plan, he published some considerable parts of it: what he published on the Eucharist, and another work called *Concordia Discors*, exceedingly exasperated the Lutherans. He did not reply to them; but turning his arms against the Jesuits, published *Historia Jesuitica*, &c. These writings gained him preferment; he being appointed archdeacon of Caroline church, and then minister of the abbey-church. He died in 1626; and there was an edition of his works published at Geneva 1681, in seven volumes in folio.

HOSPITAL, popularly **SPITAL**, a place or building erected, out of charity, for the reception and support of the poor, aged, infirm, sick, and otherwise helpless. The word is formed of the Latin *hospes*, "host, stranger." See **HOST**.

In the ages of the church, the bishop had the immediate charge of all the poor, both sound and diseased, as also of widows, orphans, strangers, &c.—When the churches came to have fixed revenues allotted them, it was decreed, that at least one fourth part thereof should go to the relief of the poor; and to provide for them the more commodiously, divers houses of charity were built, which are since denominated *hospitals*. They were governed wholly by the priests and deacons, under the inspection of the bishop. In course of time, separate revenues were assigned for the hospitals; and particular persons, out of motives of piety and charity, gave lands and money for erecting of hospitals. When the church discipline began to relax, the priests, who till then had been the administrators of hospitals, converted them into a sort of benefices, which they held at pleasure, without giving account thereof to any body; reserving the greatest part of the income to their own use; so that the intentions of the founders were frustrated.—To remove this abuse, the council of Vienne expressly prohibited the giving any hospital to secular priests in the way of a benefice; and directed the administration thereof to be given to sufficient and responsible laymen, who should take an oath, like that of tutors, for the faithful discharge thereof, and be accountable to the ordinaries.—This decree was executed and confirmed by the council of Trent.

In Britain, hospitals are buildings properly endowed, or otherwise supported by charitable contributions, for the reception and support of the poor, aged, infirm, sick, or helpless.

A charitable foundation laid thus for the sustenance and relief of the poor, is to continue for ever. Any person seized of an estate in fee, may, by deed enrolled in chancery, erect and found an hospital, and nominate such heads and governors therein as he shall think fit; and this charitable foundation shall be incorporated, and subject to the inspection and guidance of the heads and visitors nominated by the founder. Likewise such corporations shall have, take, and pur-

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chase lands, so as not to exceed 200l. a year, provided the same be not held of the king; and to make leases, reserving the accustomed yearly rent. See **CORPORATION**.

HOSPITAL (Michael de l'), chancellor of France in the 16th century, was one of the greatest men of his age, and had raised himself by degrees. He agreed to an edict much severer against the Protestants than he could have wished, to prevent the introduction of the inquisition. It was that of Romorantin. The speeches he made, in order to inspire a spirit of toleration, made him much suspected by the Roman Catholics, and extremely odious to the court of Rome. The maxims of state upon which he regulated himself were of great advantage to France, since he formed some disciples who opposed, in proper time, the pernicious attempts of the leaguers, and rendered them abortive.—His pacific views being disliked by Catharine de Medicis, who had contributed to his advancement, she excluded him from the council of war, and occasioned his disgrace. He retired, however, of his own accord, in 1568; and spent the rest of his life at his country-seat at Vignai, where he died in 1573, aged 68. His poems are esteemed. He also published some excellent speeches and memoirs.

HOSPITAL (William-Francis-Antony, marquis of), a great mathematician of France, was born of an ancient family in 1661. He was a geometrician almost from his infancy; for one day being at the duke of Rohan's, where some able mathematicians were speaking of a problem of Pascal's which appeared to them extremely difficult, he ventured to say, that he believed he could solve it. They were amazed at such presumption in a boy of 15, for he was then no more; nevertheless, in a few days he sent them the solution. He entered early into the army, and was a captain of horse; but being extremely short-sighted, and exposed on that account to perpetual inconveniences and errors, he at length quitted the army, and applied himself entirely to his favourite amusement. He contracted a friendship with Malbranche, and took his opinion upon all occasions. In 1693, he was received an honorary member of the academy of sciences at Paris; and he published a work upon Sir Isaac Newton's calculations, intitled, *L'Analyse des infinimens petits*. He was the first in France who wrote upon this subject; and on this account was regarded almost as a prodigy. He engaged afterwards in another work of the mathematical kind, in which he included *Les Sections Coniques, les Lieux Geometriques, la Construction des Equations, et Une Theorie des Courbes Mechaniques*; but a little before he had finished it, he was seized with a fever, of which he died Feb. 2. 1704, aged 43. It was published after his death.

HOSPITALITY, the practice of entertaining strangers. Dr Robertson, speaking of the middle ages, says, "Among people whose manners are simple, and who are seldom visited by strangers, hospitality is a virtue of the first rank. This duty of hospitality was so necessary in that state of society which took place during the middle ages, that it was not considered as one of those virtues which men may practise or not, according to the temper of their minds and the generosity of their hearts. Hospitality was enforced by statutes, and those who neglected the duty were liable

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to punishment. The laws of the Slavi ordained that the moveables of an inhospitable person should be confiscated, and his house burnt. They were even so solicitous for the entertainment of strangers, that they permitted the landlord to steal for the support of his guest."

The hospitality of our British ancestors, particularly of the great and opulent barons, hath been much admired, and considered as a certain proof of the nobleness and generosity of their spirits. The fact is well attested. The castles of the powerful barons were capacious palaces, daily crowded with their numerous retainers, who were always welcome to their plentiful tables. They had their privy counsellors, their treasurers, marshals, constables, stewards, secretaries, chaplains, heralds, pursuivants, pages, henchmen or guards, trumpeters, minstrels, and in a word all the officers of a royal court. The etiquette of their families was an exact copy of that of the royal household; and some of them lived in a degree of pomp and splendor little inferior to that of the greatest kings. Richard Neville, earl of Warwick, we are told, "was ever had in great favour of the commons of the land, because of the exceeding household which he daily kept in all countries wherever he sojourned or lay: and when he came to London, he held such an house, that six oxen were eaten at a breakfast; and every tavern was full of his meat." The earls of Douglas in Scotland, before the fall of that great family, rivalled or rather exceeded their sovereigns in pomp and profuse hospitality. But to this manner of living, it is highly probable these great chieftains were prompted by a desire of increasing the number and attachment of their retainers, on which, in those turbulent times, their dignity, and even their safety, depended, as much as to the innate generosity of their tempers. Those retainers did not constantly reside in the families of their lords; but they wore their liveries and badges, frequently feasted in their halls, swelled their retinues on all great solemnities, attended them in their journeys, and followed them into the field of battle. Some powerful chieftains had so great a number of these retainers constantly at their command, that they set the laws at defiance, were formidable to their sovereigns, and terrible to their fellow-subjects; and several laws were made against giving and receiving liveries. But these laws produced little effect in this period.

Hospitality was not confined to the great and opulent, but was practised rather more than it is at present by persons in the middle and lower ranks of life. But this was owing to necessity, arising from the scarcity of inns, which obliged travellers and strangers to apply to private persons for lodging and entertainment; and those who received them hospitably acquired a right to a similar reception. This was evidently the case in Scotland in the first part of this period. James I. A. D. 1424, procured the following act of parliament. "It is ordanit, That in all burrow townis, and throughfairis quhair commoun passages ar, that thair be ordanit hostillaries and refectis, havand stables and chalmers; and that men find with thame bread and aill, and all uther fude, als weil for horse as men, for resonable price." But travellers had been so long accustomed to lodge in private houses, that these public inns were quite neglected; and those who kept

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them presented a petition to parliament, complaining, "That the liegis travelland in the realme, quhen they cum to burrowis and throughfairis, herbreis thame not in hostillaries, bot with thair acquaintance and friendis." This produced an act prohibiting travellers to lodge in private houses where there were hostalries, under the penalty of 40 s. and subjecting those who lodged them to the same penalty.

The inhabitants of the Highlands and the Western Isles were remarkable for their hospitality and kindness to strangers, and still retain the same disposition. See HIGHLANDERS.

HOSPITALLERS, HOSPITALARI, an order of religious knights, who built an hospital at Jerusalem, wherein pilgrims were received. To these pope Clement V. transferred the effects and revenues of the Templars; whom, by a council held at Vienne, he suppressed for their many and great misdemeanours. These hospitallers were otherwise called *Knights of St John of Jerusalem*; and are the same with those whom we now call *Knights of Malta*.

HOSPITIUM, a term used in old writers either for an inn or a monastery, built for the reception of strangers and travellers. See INN and MONASTERY.

HOSPODAR, a title borne by the princes of Walachia and Moldavia, who receive the investiture of their principalities from the grand signior. He gives them a vest and standard; they are under his protection, and obliged to serve him, and he even sometimes deposes them; but in other respects they are absolute sovereigns within their own dominions.

HOST, HOSPE, a term of mutual relation, applied both to a person who lodges and entertains another, and to the person thus lodged, &c.—The word is formed of the Latin *hospes*, which some will have thus called, *quasi hospitium* or *ostium petens*; for *ostium* was anciently written with an aspirate.—Thus the innkeeper says, he has a good *host*, in speaking of the traveller who lodges with him: and the traveller, again, says, he has a kind *host*, in speaking of his landlord.

It must be observed then, that it was the custom among the ancients, when any stranger asked for lodging, for the master of the house, and the stranger, each of them to set a foot on their own side of the threshold, and swear they would neither of them do any harm to the other. It was this ceremony that raised so much horror against those who violated the law or right of hospitality on either side; inasmuch as they were looked on as perjured.

Instead of *hospes*, the ancient Latins called it *hostis*; as Cicero himself informs us: though, in course of time, *hostis* came to signify an enemy; so much was the notion of hospitality altered.

HOST is also used by way of abbreviation for *hostia*, a victim or sacrifice offered to the Deity. In this sense, *host* is more immediately understood of the person of the Word incarnate, who was offered up an host or *hostia* to the Father on the cross for the sins of mankind. See HOSTIA.

HOST, in the church of Rome, a name given to the elements used in the eucharist, or rather to the consecrated wafer; which they pretend to offer up every day a new host or sacrifice for the sins of mankind.—They pay adoration to the host, upon a false

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presumption that the elements are no longer bread and wine, but transubstantiated into the real body and blood of Christ. See TRANSUBSTANTIATION.—Pope Gregory IX. first decreed a bell to be rung, as the signal for the people to betake themselves to the adoration of the host.—The vessel wherein the hosts are kept is called the *cibory*; being a large kind of covered chalice.

HOSTAGE, a person given up to an enemy as a security for the performance of the articles of a treaty.

HOSTIA, Host, in antiquity, a victim offered in sacrifice to a deity.

The word is formed from *hostis*, “enemy;” it being the custom to offer up a sacrifice before they joined battle, to render the gods propitious; or, after the battle was over, to give them thanks. Some choose to derive the word from *hostio*, q. d. *ferio*, “I strike.” Isidore on this word remarks, that the name *hostia* was given to those sacrifices which they offered before they marched to attack an enemy, (*antequam ad hostem pergerent*); in contradistinction from *victimæ*, which were properly those offered after the victory.

Hostia also signified the lesser sorts of sacrifice, and *victimæ* the larger. A. Gellius says, that every priest, indifferently, might sacrifice the *hostia*, but that the *victimæ* could be offered by none but the conqueror himself. But, after all, we find these two words promiscuously used one for the other by ancient writers. We read of many kinds of *hostiæ*: as *hostiæ puræ*, which were pigs or lambs ten days old; *hostiæ præcidanææ*, sacrifices offered the day before a solemn feast; *hostiæ bidentes*, sacrifices of sheep or other animals of two years old; *hostiæ eximie*, a sacrifice of the flower of the flock; *hostiæ succedanææ*, sacrifices offered after others which had exhibited some ill omen; *hostiæ ambarvales*, victims sacrificed after having been solemnly led round the fields at the *ambarvalia*; *hostiæ amburbiales*, victims slain after the *amburbium*; *hostiæ canearæ* or *caviaræ*, victims sacrificed every fifth year by the college of pontiffs, in which they offered the part of the tail called *caviar*; *hostiæ prodigiæ*, sacrifices in which the fire consumed all, and left nothing for the priests; *hostiæ piaculares*, expiatory sacrifices; *hostiæ ambegnæ* or *ambignæ*, sacrifices of cows or sheep that had brought forth twins; *hostiæ harugæ*, victims offered to predict future events from; *hostiæ mediales*, black victims offered at noon.

HOSTILITY, the action of an enemy, or a state of warfare. The word is Latin, *hostilitas*, formed of the primitive *hostis*, which signifies “enemy;” and which anciently signified “stranger,” *hospes*.

HOT-BEDS, in gardening, beds made with fresh horse-dung, or tanner’s bark, and covered with glasses to defend them from cold winds.

By the skilful management of hot-beds, we may imitate the temperature of warmer climates; by which means, the seeds of plants brought from any of the countries within the torrid zone may be made to flourish even under the poles.

The hot-beds commonly used in kitchen-gardens, are made with new horse dung mixed with the litter of a stable, and a few sea-coal-ashes, which last are of service in continuing the heat of the dung. This should remain six or seven days in a heap; and being then turned over, and the parts mixed well together, it should be again cast into a heap; where it may continue five or six days longer, by which time it will

have acquired a due heat. These hot-beds are made in the following manner: In some sheltered part of the garden, dig out a trench of a length and width proportionable to the frames you intend it for; and if the ground be dry, about a foot or a foot and a half deep; but if it be wet, not above six inches: then wheel the dung into the opening, observing to stir every part of it with a fork, and to lay it exactly even and smooth on every part of the bed, laying the bottom part of the heap, which is commonly free from litter, upon the surface of the bed: and if it be designed for a bed to plant out cucumbers to remain for good, you must make a hole in the middle of the place designed for each light about ten inches over, and six deep, which should be filled with good fresh earth, thrusting in a stick to show the places where the holes are; then cover the bed all over with the earth that was taken out of the trench, about four inches thick, and put on the frame, letting it remain till the earth be warm, which commonly happens in three or four days after the bed is made, and then the plants may be placed in it. But if your hot-bed be designed for other plants, there need be no holes made in the dung; but after having smoothed the surface with a spade, you should cover the dung about three or four inches thick with good earth, putting on the frames and glasses as before. In making these beds, care must be taken to settle the dung close with a fork; and if it be pretty full of long litter, it should be trod down equally on every part. During the first week or ten days after the bed is made, you should cover the glasses but slightly in the night, and in the day-time carefully raise them, to let out the steam: but as the heat abates, the covering should be increased; and as the bed grows cold, new hot dung should be added round the sides of it.

The hot-bed made with tanner’s bark is, however, much preferable to that described above, especially for all tender exotic plants and fruits, which require an even degree of warmth to be continued for several months, which cannot be effected with horse-dung. The manner of making them is as follows: Dig a trench about three feet deep, if the ground be dry; but if wet, it must not be above a foot deep at most, and must be raised two feet above the ground. The length must be proportioned to the frames intended to cover it; but it should never be less than ten or twelve feet, and the width not less than six. The trench should be bricked up round the sides to the above-mentioned height of three feet, and filled in the spring with fresh tanner’s bark that has been lately drawn out of their vats, and has lain in a round heap, for the moisture to drain out of it, only three or four days: as it is put in, gently beat it down equally with a dung-fork; but it must not be trodden, which would prevent its heating, by settling it too close: then put on the frame, covering it with glasses; and in about ten days or a fortnight it will begin to heat; at which time plunge your pots of plants or seed into it, observing not to tread down the bark in doing it. These beds will continue three or four months in a good temper of heat; and if you stir up the bark pretty deep, and mix a load or two of fresh bark with the old when you find the warmth decline, you will preserve its heat two or three months longer. Many lay

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lay some hot horse-dung in the bottom of the trench under the bark; but this ought never to be practised unless the bed is wanted sooner than the bark would heat of itself, and even then there ought only to be a small quantity of dung at the bottom.

The frames which cover these beds, should be proportioned to the several plants they are designed to contain. If they are to cover the ananas or pineapple, the back part should be three feet high, and the lower part 15 inches: if the bed be intended for taller plants, the frame must be made of a depth proportionable to them: but if it be for sowing of seeds, the frame need not be above 14 inches high at the back, and 7 in the front; by which means the heat will be much greater.

Hot-House. See STOVE and HYPOCAUSTUM.

HOTEL, a French term, anciently signifying a house or dwelling place.—It is now more commonly used for the palaces or houses of the king, princes, and great lords. In this sense they say, the *hotel de Conde*, *hotel de Conti*, *hotel du Louvre*, &c.

The grand *prevot de l'hotel*, is the first judge of the officers of the king's household. His jurisdiction is much like that of lord steward of the household of the king of England.

The *hotel de ville* is what we call a *town-house* or *town-hall*.

HOTEL, is likewise used for a large inn, also for a large lodging-house ready furnished.

HOTMAN (Francis), one of the most learned civilians in the 16th century. He professed law at Bourges: but, on account of religion, retired to Geneva, read lectures on civil law there, and published books with such strength against the persecutors, that great promises were made to him to engage him not to write any more in that manner; but he did not regard their offers. He died at Basil in 1590. His *Franco-Gallia* is well known, having been done in English by lord Moleworth. Some persons think he was the author of *Vindiciæ contra Tyrannos*. All his works were printed at Geneva in 1590, in 3 vols folio.

HOTTENTOTS, a people in the southern part of Africa, whose country surrounds the empire of Monomotapa, in form of a horse-shoe, extending, according to Magin, from the Negroest of Cabo as far as the Cape of Good Hope; and from thence northward to the river Magnica, or Rio de St Spirita, including Mattatan a distinct kingdom. According to Sanutus, this coast, beginning at the Mountains of the Moon under the tropic of Capricorn in $23^{\circ}\frac{1}{2}$ S. Lat. extends north beyond the Cape to the coast of Zanguebar; having the Indian sea on the east, the Ethiopic on the west, the southern ocean on the south; and on the north the kingdoms of Mattatan, Monomotapa, and the coast of Zanguebar, or rather the Mountains of the Moon, which divide it from the rest of the continent.

The Europeans first became acquainted with this country in the year 1493, when Bartholomew Diaz, a Portuguese admiral, discovered the most southerly point of Africa now called the *Cape of Good Hope*, but by him *Cabo dos totos tormentos*, or Cape of all Plagues, on account of the storms he met with in the neighbourhood; but John, then king of Portugal, ha-

ving from the account of Diaz concluded that a passage to the East Indies was now discovered, changed the name to that of the *Cape of Good Hope*, which it still retains. In 1497, it was circumnavigated by Gasco de Gama, who made a voyage to India that way; however, it remained useless to Europeans till the year 1650, when Van Riebeck a Dutch surgeon first saw the advantages that would accrue to the East India company in Holland from a settlement at such a convenient distance both from home and from India. The colony which he planted has ever since continued in the hands of the Dutch, has greatly increased in value, and is visited by all the European ships trading to the East Indies. See *Good-Hope*.

The country now possessed by the Dutch is of pretty considerable extent, and comprehends that part of the African coast on the west called *Terra de Natal*. It is naturally barren and mountainous; but the industry of the Dutch hath overcome all natural difficulties, and it now produces not only a sufficiency of all the necessaries of life for the inhabitants, but also for the refreshment of all the Europeans who pass and repass that way.

The coast abounds in capes, bays, and roads. Thirty leagues to the east of the Cape of Good Hope, in S. Lat. $34. 21$. is another Cape which runs out beyond 35° , called by the Portuguese, who first doubled it, *Cabo dos Agulhas*, or the *Cape of Needles*, on account of some strange variations in the magnetical needle observed as they came near it. Near this Cape is a flat shore, with plenty of fish: it begins in the west near a fresh-water river, and, extending 15 leagues in the main sea, ends in the east near *Fish-bay*. Cabo Falso, so called by the Portuguese, who returning from India mistook it for the Cape of Good Hope, lies to the eastward between these two capes, about eight or nine leagues beyond that of Good Hope. Along the coasts, on both sides of the Cape of Good Hope, are many fine bays. Twenty-seven leagues to the north-west is Saldonha bay, so named from a Portuguese captain shipwrecked on the coast. The largest and most commodious is *Table Bay*, on the south, and near the mountain of that name, six leagues in circumference, with four-fathom water close to the beach. Opposite to this bay is *Robu Eilan*, or the island of Rabbits, in $34. 30$. S. Lat. 67 leagues east from the Cape of Good Hope. Peter Both, in 1661, discovered a bay, which he named *Uleest*, sheltered only from north winds, in which is a small island, and on the west a rivulet of fresh water extremely convenient for European mariners. Twenty-five or thirty leagues farther east, Both discovered Marshal Bay, afterwards named by the Portuguese *Seno Formoso*. Next to this is *Seno de Lago*, from its resemblance to a lake. There are several roads in this bay, and an island called *Ilha dos Caos*. Cabo de S. Francisco, and Cabo das Serras are marked upon charts between these two bays. Near the latter of these capes is Cabo de Arecito, and the island Contento; and something more north-east is St Christopher's river, called *San Christovano* by the Portuguese, and by the Hottentots *Nagod*. The country beyond this river was called by the Portuguese, who discovered it on the day of our Lord's nativity, *Terra de Natal*. Between the Cape of Good Hope and Cabo das Agulhas are the Sweet, Salt,

Hottentots. Salt, and Jagulina rivers, which run into the sea, and Sweet-water river flows from the Table-mountain.

The most remarkable mountains in this country are, Table-mountain, Devil's Tower, Lion's Head, and the Tiger-hills. The three first lie near Table-bay, and surround Table-valley, where the Cape town stands. (See the article *Good-Hope*.) Mr Forster, in his voyage, informs us, that "the extremity of Africa towards the south is a mass of high mountains, of which the outermost are craggy, black, and barren, consisting of a coarse granite, which contains no heterogeneous parts, such as petrified shells, &c. nor any volcanic productions. The ground gradually rises on all sides towards the three mountains which lie round the bottom of the bay, keeping low and level only near the sea-side, and growing somewhat marshy in the Isthmus between False and Table Bays, where a salt rivulet falls into the latter. The marshy part has some verdure, but intermixed with a great deal of sand. The higher grounds, which, from the sea-side, have a parched and dreary appearance, are, however, covered with an immense variety of plants, among which are a prodigious number of shrubs, but scarce one or two species that deserve the name of *trees*. There are also a few small plantations wherever a little run of water moistens the ground. The ascent of Table-mountain is very steep and difficult, on account of the number of loose stones which roll away under the feet of the traveller. About the middle of the mountain is a bold, grand chasm, whose walls are perpendicular, and often impending rocks piled up in strata. Small rills of water ooze out of crevices, or fall from precipices in drops, giving life to hundreds of plants and low shrubs in the chasm. The summit of the mountain is nearly level, very barren, and bare of soil; several cavities, however, are filled with rain water, or contain a small quantity of vegetable earth, from whence a few odoriferous plants draw their nourishment. Some antelopes, howling baboons, solitary vultures, and toads, are sometimes to be met with on the mountain. The view from thence is very extensive and picturesque. The bay seems a small pond or basin, and the ships in it dwindled to little boats; the town under our feet, and the regular compartments of its gardens, look like the work of children."

Most accounts of this country that have been published mention a surprising phenomenon which is annually to be seen on the top of Table-hill from September to March; namely, a white cloud hovering on its top, and called by sailors *the Devil's table-cloth*. (See the article *Good-Hope*.) This cloud is said by some to appear at first no bigger than a barley-corn; then increases to the size of a walnut, and soon after covers the whole top of the mount. But, according to Mr Kolben, it is never less, even on its first appearance, than the size of a large ox, often bigger. It hangs in several fleeces over the Table-hill and the Wind or Devil's-hill; which fleeces, at last uniting, form a large cloud that covers the summits of these two hills. After this has rested for some time without change or motion, the wind bursts out suddenly from it with the utmost fury. The skirts of the cloud are white, but seem much more compact than the matter of common clouds; the upper parts are of a leaden colour. No rain falls from it, but sometimes it dis-

covers a great deal of humidity; at which times it is of a darker colour, and the wind issuing from it is broken, raging by fits of short continuance. In its usual state, the wind keeps up its first fury unabated for one, two, three, or eight days; and sometimes for a whole month together. The cloud seems all the while undiminished, though little fleeces are from time to time detached from it, and hurried down the sides of the hills, vanishing when they reach the bottom, so that during the storm the cloud seems to be supplied with new matter. When the cloud begins to brighten up, these supplies fail, and the wind proportionably abates. At length, the cloud growing transparent, the wind ceases. During the continuance of these south-east winds, the Table-valley is torn by furious whirlwinds. If they blow warm, they are generally of short duration; and in this case the cloud soon disappears. This wind rarely blows till after sunset, and never longer than till towards midnight, though the cloud remains; but then it is thin and clear: but when the wind blows cold, it is a sure sign that it will last for some time, an hour at noon and midnight excepted; when it seems to lie still to recover itself, and then lets loose its fury anew.

The Europeans at the Cape consider the year as divided into two seasons, which they term *monsoons*. The wet monsoon or winter, and the dry one or summer. The first begins with our spring in March; the latter with September, when our summer ends. In the summer monsoon reign the south-east winds already mentioned; which, though they clear and render the air more healthy, yet make it difficult for ships outward bound to enter Table-bay. In the bad season, the Cape is much subject to fogs; and the north-west winds and rain make the inhabitants stay much at home. But there are frequent intermissions and many clear days till June and July; when it rains almost continually, and from thence till summer. The weather in winter is cold, raw, and unpleasant; but never more rigorous than autumn in Germany. Water never freezes to above the thickness of half a crown; and as soon as the sun appears, the ice is dissolved. The Cape is rarely visited by thunder and lightning, excepting a little near the turn of the seasons, which never does any hurt. During the continuance of the south-east winds which rage in summer, the sky is free of all clouds except that on the Table and Wind Hills already mentioned; but during the north-west winds, the air is thick, and loaded with heavy clouds big with rain. If the south-east winds should cease for any length of time, the air becomes sickly by reason of the sea-weeds driving ashore and rotting; hence the Europeans are at such times affected with head-achs and other disorders: but, on the other hand, the violence of those winds subjects them to inflammations of their eyes, &c.

The natives of this country are called *Hottentots*, in their own language; a word of which it is vain to inquire the meaning, since the language of this country can scarce be learned by any other nation. The *Hottentot* language is indeed said to be a composition of the most strange and disagreeable sounds, deemed by many the disgrace of speech, without human sound or articulation, resembling rather the noise of irritated turkies, the chattering of magpies, hooting of owls, and

Hottentots. depending on extraordinary vibrations, inflexions, and clappings of the tongue against the palate.—If this account is true, however, it is obvious, that all the relations we have concerning the religion, &c. of the Hottentots derived from themselves, must fall to the ground, as nobody can pretend to understand a language in itself unintelligible. The manners and customs of those people, however, are easily observable, whether they themselves give the relation or not; and if their language is conformable to them, it is no doubt of a nature sufficiently wonderful.

Many accounts have been published concerning the extreme nastiness and filthy customs of the Hottentots; but from the observations of late travellers it appears, that these have either been exaggerated, or that the Hottentots (which is not improbable) have in some measure laid aside their former manners. Dr Sparrman describes them in much less disgusting terms, and M. Vaillant seems to have been charmed with their innocence and simplicity. According to the Doctor, these people are as tall as the generality of Europeans, though more slender in their persons, which he attributes to their scanty supply of food, and not accustoming themselves to hard labour. The characteristic of the nation, however, and which he thinks has not been observed by any one before, is, that they have small hands and feet in proportion to the other parts of their body. The distance between the eyes appears greater than in Europeans, by reason of the root of the nose being very low. The tip is pretty flat, and the iris of the eye has generally a dark-brown cast, sometimes approaching to black. Their skin is of a yellowish brown, something like that of an European who has the jaundice in a high degree; though this colour does not in the least appear in the whites of the eyes. Their lips are thinner than those of their neighbours the *Negroes*, *Caffres*, or *Mozambiques*. “In fine (says our author) their mouths are of a middling size, and almost always furnished with a set of the finest teeth that can be seen; and, taken together with the rest of their features, as well as their carriage, shape, and every motion, in short their *tout ensemble* indicates health and delight, or at least an air of *sans souci*. This careless mien, however, discovers marks at the same time both of alacrity and resolution; qualities which the Hottentots, in fact, can show upon occasion.” The hair of the head is black and frizzled, though not very close; and has so much the appearance of wool, that it would be taken for it, were it not for its harshness. They have but seldom any appearance of a beard, or hair upon other parts of their bodies; and when any thing of this kind happens to be visible, it is always very slight.

A general opinion has prevailed, that the Hottentot women have a kind of natural vail which covers the sexual parts; but this is denied by our author. “The women (says he) have no parts uncommon to the rest of their sex: but the clitoris and nymphæ, particularly of those who are past their youth, are pretty much elongated; a peculiarity which has undoubtedly got footing in this nation in consequence of the relaxation necessarily produced by the method they have of besmearing their bodies, their slothfulness, and the warmth of the climate.”

The Hottentots besmear all their bodies copiously

with fat mixed up with a little foot. “This (says our author) is never wiped off; on the contrary, I never saw them use any thing to clean their skins, excepting that when in greasing the wheels of their wagons, their hands were besmeared with tar and pitch, they used to get it off very easily with cow-dung, at the same time rubbing their arms into the bargain up to the shoulders with this cosmetic; so that as the dust and other filth, together with their sooty ointment, and the sweat of their bodies, must necessarily, notwithstanding it is continually wearing off, in some measure adhere to the skin, it contributes not a little to conceal the natural hue of the latter, and at the same time to change it from a bright umber-brown to a brownish-yellow colour, obscured with filth and nastiness.”—The Doctor was enabled to discover the natural colour of the Hottentots by means of the nicety of some Dutch farmers wives, who had made their Hottentot girls wash and scour their skins, that they might be less filthy in looking after the children, or doing any other work that required cleanliness. Many of the colonists, however, are of opinion, that this operation of washing is no improvement to the look of an Hottentot; but that their natural yellow is fully as disagreeable as the black or brown colour of the ointment; and that the washed skin of a native of this country seems to be deficient in dress, like shoes that want blacking. This the Doctor does not pretend to determine; though, whatever may be supposed deficient in look we should think, must be made up in cleanliness.

The Hottentots perfume their bodies, by daubing them all over with the powder of an herb, the smell of which is at once rank and aromatic, approaching to that of the poppy mixed with spices. For this purpose they use various species of the *diosma*, called by them *bucku*, and which they imagine to be very efficacious in the cure of disorders. One species of this plant, growing about *Goud's-rivier*, is said to be so valuable, that no more than a thimble-full of its powder is given in exchange for a lamb.

By the ointment of foot and grease stuck full of the powder of *bucku*, a paste is formed which defends the bodies of the Hottentots in a great measure from the action of the air; so that they require very few clothes, and in fact go almost quite naked. The only covering of the men consists of two leather straps, which generally hang down the back from the chine to the thighs, each of them in the form of an isosceles triangle, their points uppermost, and fastened to a belt which goes round their waste, their bases not being above three fingers broad; so that the covering they form is extremely trifling. These straps have very little dressing bestowed upon them, so that they make a rattling noise as the Hottentot runs along; and our author supposes that they may produce an agreeable coolness by fanning him. Besides this, the men have a bag or flap made of skin which hangs down before, and is fastened to the belt already mentioned. The hollow part of this seems designed to receive that which with us modesty requires to be concealed; but being only fastened by a small part of its upper end to a narrow belt, in other respects hanging quite loose, it is but a very imperfect concealment; and when the wearer is walking, or otherwise in motion, it is none at all. They call

Hottentots call this purse by the Dutch name of *jackall*, it being almost always prepared of the skin of that animal, with the hairy side turned outwards.

The women cover themselves much more scrupulously than the men, having always two, and very often three coverings like aprons; though even these seem to be abundantly small for what we would term decency in this country. The outermost of these, which is the largest, measures only from about six inches to a foot in breadth. All of them are made of a skin well prepared and greased, the outermost being adorned with glass beads strung in different figures. The outermost reaches about half-way down the thighs, the middle about a third, or one half less, and the third scarcely exceeds the breadth of the hand. The first is said to be designed for ornament, the second as a defence for modesty, and the third to be useful on certain occasions, which, however, are much less troublesome to the Hottentot than to the European females. Our author, with great probability supposes, that it was the sight of this innermost apron which misled the reverend Jesuit Tackard, who, on his return to Europe, first propagated the stories concerning the natural vails or excrescences of the Hottentots.—A story was likewise commonly believed, that the men in general had but one testicle, and that such as were not naturally formed in this manner were artificially made so. But this our author likewise denies; and though he says that such an operation might have been formerly performed upon the males, yet it is not so now.

The other garments worn by the Hottentots are formed of a sheep's-skin with the woolly side turned inwards; this forming a kind of cloak, which is tied forwards over the breast: though sometimes, instead of a sheep's-skin, some smaller kind of fur is used as a material. In warm weather they let this cloak hang carelessly over their shoulders, so that it reaches down to the calves of the legs, leaving the lower part of the breast, stomach, and fore-part of the legs and thighs bare; but in cold weather they wrap it round them; so that the fore-part of the body is likewise pretty well covered by it as far as the knees: But as one sheep-skin is not sufficient for this purpose, they sew on a piece on the top at each side with a thong or catgut. In warm weather they sometimes wear the woolly side outwards, but more frequently take off the cloak altogether, and carry it under their arm. This cloak or *krosse* serves them not only for clothes, but bedding also; and in this they lie on the bare ground, drawing up their bodies so close, that the cloak is abundantly sufficient to cover them.—The cloaks used by the women differ little from these already described, excepting only that they have a long peak on them, which they turn up; forming with it a little hood or pouch, with the hairy side inwards. In this they carry their little children, to which the mother's breasts are now and then thrown over the shoulders; a custom common among some other nations, where the breasts of the females, by continual want of support, grow to an enormous length. The men commonly wear no covering on their heads, though our author says he has seen one or two who wore a greasy night-cap made of skin with the hair taken off. Those who live nearest the colonists have taken a liking to the European hats, and wear them slouched all round, or with only one side turned

up. The women also frequently go bare-headed; though they sometimes wear a cap made in the shape of a short truncated cone. This appears to be the section of some animal's stomach, and is perfectly blacked by soot and fat mixed up together. These caps are frequently prepared in such a manner as to look shaggy; others have the appearance of velvet; and in our author's appearance are not inelegant. Over this they sometimes wear an oval wreath or kind of crown made of a buffalo's hide, with the hair outermost. It is about four fingers breadth in height, and surrounds the head so as to go a little way down upon the forehead, and the same depth on the neck behind, without covering the upper part of the cap above described. The edges of this wreath, both upper and under, are always smooth and even; each of them set with a row of small shells of the *cyprea* kind, to the number of more than 30, in such a manner, that, being placed quite close to one another, their beautiful white enamel, together with their mouths, are turned outwards. Between two rows of these shells run two others parallel, or else waved and indented in various ways. The Hottentots never adorn their ears or noses as other savages do: though the latter are sometimes marked with a black streak of soot; at others, though more rarely, with a large spot of red lead; of which last, on festivals and holidays, they likewise put a little on their cheeks. The necks of the men are bare, but those of the women are ornamented with a thong of undressed leather, upon which are strung eight or ten shells. These, which are about the size of beans, have a white ground, with large black spots of different sizes: but as they are always made use of in a burnished state, the Doctor is uncertain whether they be of that kind which is received in the *Systema Naturæ* under the name of *nerita albicilla*, or *exuvia*. These shells are sold at an enormous price, no less than a sheep for each; as it is said that they come from the most distant coast of Caffraria. Both men and women are very fond of European beads, particularly the blue and white ones of the size of a pea; of which they tie several rows round the middle, and next to the girdles which hold the coverings above mentioned. Besides these ornaments, they use rings on their arms and legs; most of them made of thick leather straps generally cut in a circular shape; which, by being beat and held over the fire, are rendered tough enough to retain the curvature that is given them. From these rings it has been almost universally believed, that the Hottentots wrap guts about their legs in order to eat them occasionally. The men wear from one to five or six of these rings on their arms, just above the wrist, but seldom on their legs. The matrons of a higher rank have frequently a considerable number of them both on their arms and legs, especially on the latter; so that they are covered with them from the feet up to the knees. These rings are of various thicknesses, from that of a goose-quill to two or three times that size. Sometimes they are made of pieces of leather forming one entire ring; so that the arms and feet must be put through them when the wearer wishes to put them on. They are strung upon the legs, small and great, without any nicety; but are so large, that they shake and get twisted when the person walks. Rings of iron or copper, but especially of brass, of the size of a goose,

Hottentots. goose-quill, are considered as more genteel than those of leather. However, they are sometimes worn along with the latter, to the number of six or eight at a time, particularly on the arms. The girls are not allowed to use any rings till they are marriageable. The Hottentots seldom wear any shoes; but such as they do make use of are of the same form with those worn by the African peasants, by the Esthonians, and Livonians, as well as by some Finlanders; so that it is impossible to say whether they are the invention of the Dutch or the Hottentots themselves. They are made of undressed leather, with the hairy side outward; without any other preparation than that of being beat and moistened. If it be a thick and stout hide, as that of a buffalo, it is kept for some hours in cowdung, which renders it besides very soft and pliable. Some kind of grease is afterwards used for the same purpose. The shoes are then made in the following manner. They take a piece of leather, of a rectangular form, something longer and broader than the foot of the person for whom the shoes are intended; the two foremost corners are doubled up together, and sewed down, so as to cover the fore-part of the foot; but this seam may be avoided, and the shoes made much neater at the toes, by fitting immediately over them a cap taken from the membrane in the knee-joint of the hind-leg of some animal. In order to make this piece of skin or leather rise up to the height of an inch on both sides of the foot, and close it in neatly, it is pierced with holes at small distances all round the edge, as far as the hind-quarters; and through these holes is passed a thong, by which the rim is drawn up into gathers. In order to make strong hind quarters, the back part of the piece of leather is doubled inwards, and then raised up and pressed along the heel. The ends of the thong or gathering string are then threaded on both sides through the upper edge of the hind-quarters, to the height of about two inches; they are then carried forwards, in order to be drawn through two of the above-mentioned holes on the inside of each rim. Lastly, they are tied over the instep, or if it be thought necessary to tie the shoe still faster, they are carried cross-ways over the instep, and so downwards under the thong, which comes out from the hind-quarters; then upwards again over the ankle, and even round the leg itself if the wearer chooses. Shoes of this kind are not without their advantages: they fit as neat upon the foot as a stocking, and at the same time preserve their form. They are easily kept soft and pliable by constantly wearing them; or, if at any time they should become somewhat hard, this is easily remedied by beating and greasing them. They are extremely light and cool, by reason that they do not cover so much of the foot as a common shoe. They wear very well, as they are without any seam, and the soles of the shoes are both tough and yielding. These field shoes, as they are called, being made of almost raw leather, are much more durable than those of tanned leather, which are burnt up by the African sands, and slip and roll about in them; being also very ready to be torn in a rocky soil, which is not the case with the others. The Doctor is of opinion, that these shoes would be particularly useful to sailors.

The huts of the Hottentots are built exactly alike; and we may readily give credit to our author when he

tells us, that they are done in a style of architecture which does not a little contribute to keep envy from insinuating itself under their roofs. Some of these huts are circular, and others of an oblong shape, resembling a round bee-hive or vault; the ground-plot being from 18 to 24 feet in diameter. The highest are so low, that it is scarce ever possible for a middle-sized man to stand upright even in the centre of the arch; "but (says our author) neither the lowness thereof, nor that of the door, which is but just three feet high, can perhaps be considered as any inconvenience to an Hottentot, who finds no difficulty in stooping and crawling upon all fours, and is at any time more inclined to lie down than to stand. The fire-place is in the middle of each hut, by which means the walls are not so much exposed to danger from fire. From this situation of the fire-place also the Hottentots derive this additional advantage, that they can all sit or lie in a circle round it, enjoying equally the warmth of the fire. The door, low as it is, alone lets in day-light or lets out the smoke: and so much are these people accustomed to live in such smoky mansions, that their eyes are never affected by it in the least, nor even by the mephitic vapour of the fuel, which to Europeans would be certain death.

The frame of the arched roof is composed of slender rods or sprays of trees. These being previously bent into a proper form, are laid, either whole or pieced, some parallel to one another, others crosswise; after which they are strengthened by binding others round them in a circular form with withies. All these are taken principally from the *cliffortia conoides*, which grows plentifully in this country near the rivers. Large mats are then placed very neatly over this lattice work, so as perfectly to cover the whole. The aperture which is left for the door is closed occasionally by a skin or piece of matting. These mats are made of a kind of kane or reed in the following manner. The reeds being laid parallel to one another, are fastened together with sinews or catgut, or some kind of catgut which they have had an opportunity of getting from the Europeans; so that they have it in their power to make them as long as they please, and as broad as the length of the reeds, which is from six to ten feet. The colonists make use of the same kind of matting, next to the tilts of their waggons, to prevent the sail-cloth from being rubbed and worn, and likewise to help to keep out the rain.

In a *craal*, or Hottentot village, the huts are most commonly disposed in a circle, with the doors inwards; by which means a kind of court-yard is formed, where the cattle are kept at nights. The milk, as soon as taken from the cow, is put to other milk which is curdled, and kept in a leather sack with the hairy side inwards as being the more cleanly; so that thus the milk is never drunk sweet. In some northern districts, where the land is dry and parched, both Hottentots and colonists are shepherds. When an Hottentot has a mind to shift his dwelling, he lays all the mats, skins, and rods, of which it is composed, on the backs of his cattle, which, to a stranger, makes a monstrous, unwieldy, and even ridiculous appearance.

There is a species of Hottentots named *Boskiesmen*, who dwell in the woody and mountainous parts, and subsist entirely by plunder. They use poisoned arrows,

Hottentots. rows, which they shoot from bows about a yard long and an inch in thickness in the middle, very much pointed at both ends. Dr Sparrman does not know the wood of which they are made, but thinks that it is not very elastic. The strings were made, some of sinews, and others of a kind of hemp, or the inner bark of some vegetable; but most of them in a very slovenly manner. The arrows are about a foot and an half long, headed with bone, and a triangular bit of iron; having also a piece of quill bound on very strongly with sinews, about an inch and an half from the top, in order to prevent it from being easily drawn out of the flesh. The whole is lastly covered over with a very deadly poison of the consistence of an extract. Their quivers are two feet long and four inches in diameter; and are supposed by our author to be made of the branch of a tree hollowed out, or more probably of the bark of one of the branches taken off whole, the bottom and cover being made of leather. It is daubed on the outside with an unctuous substance which grows hard when dry, and is lined about the aperture with the skin of the yellow serpent, supposed to be the most deadly in all that part of the world. The poison they make use of is taken from the most venomous serpents; and, ignorant as the Hottentots are, they all know that the poison of serpents may be swallowed with safety. See the article **BOSHIESMEN**.

In the year 1779, Lieutenant William Paterfon, who took a long and dangerous excursion from the Cape along the western side of the continent, discovered a new tribe of Hottentots, whose living, he says, is in the highest degree wretched, and who are apparently the dirtiest of all the Hottentot tribes. Their dress is composed of the skins of seals and jackals, the flesh of which animals they feed upon. If a grampus happen to be cast ashore, they remove their huts to the place, and feed upon the carcase as long as it lasts, though perhaps it may be half rotten by the heat of the weather. They besmear their skins with the oil; by which means they smell so exceedingly rank that their approach may be thus perceived before they come in sight. Their huts, however, are much superior to those of the southern Hottentots already described; being higher, thatched with grass, and furnished with stools made of the back-bones of the grampus. They dry their fish in the sun; as the lieutenant found several kinds of fish near their huts suspended from poles, probably for this purpose. He found also several aromatic plants which they had been drying.

With respect to the religion of the Hottentots, it does not appear that they have any. On being questioned on the subject of a Creator and Governor of the universe, they answer that they know nothing of the matter; nor do they seem willing to receive any instruction. All of them, however, have the most firm belief in the powers of magic; from whence it might be inferred that they believe in an evil being analogous to what we call *the devil*; but they pay no religious worship to him, though from this source they derive all the evil that happens, and among these evils they reckon cold, rain, and thunder. So monstrously ignorant are they, that many of the colonists assured Dr Sparrman, that their Boshiesmen would abuse the

thunder with many opprobrious epithets, and threaten Hottentots to assault the flashes of lightning with old shoes, or any thing that comes first to hand. Even the most intelligent among them could not be convinced by all the arguments our author could use, that rain was not always an evil, and that it would be an unhappy circumstance if it were never to rain. "A maxim (says he), from a race of men in other respects really endowed with some sense, and frequently with no small degree of penetration and cunning, ought, methinks, to be considered as an indelible religious or superstitious notion entertained by them from their infancy, rather than as an idea taken up on due deliberation and consequent conviction."

As the Hottentots have so strong a belief in the powers of magic, it is no wonder that they have abundance of witches and conjurers among them. These will readily undertake any thing, even to put a stop to thunder and rain, provided they be well paid for their pains; and if it happen to thunder or rain longer than the time they promised, they have always for an excuse, that a more powerful conjurer has put a stop to their incantations. Many of the Hottentots believe that all disorders incident to the human body are cured by magic. The wizards are fond of encouraging this idea; but at the same time take care to employ both external and internal remedies. Among the former may be reckoned a cure performed upon Captain Cook in some of the South-Sea islands, viz. that of pinching, cuffing, and kneading the whole body of the patient. To this, however, the Hottentot physicians add that of pretending to suck out a bone from some part of the patient's body. After this it sometimes happens that the sick person is relieved, and sometimes not. In the latter case the operation is repeated; and, if he dies, his friends lament that he was bewitched beyond the power of any one to assist him. These conjurers appear to be possessed of considerable slight of hand. Our author was informed by a colonist, that when he was a child, and playing with a bone of an ox which he drew as a cart, it appeared to his great astonishment to be sucked out of a sick person's back by a wizard; and as far as he could remember, the patient recovered soon after. These pretensions of the wizards sometimes render them liable to persecutions; and there is an instance of a chief named *Paloo*, who ordered a general massacre among them, in hopes of cutting off the person who he believed had bewitched himself, and afflicted him with sore eyes.

The superstition of the Hottentots never operates in the way of making them afraid in the dark. They seem, however, to have some ideas of a future state, as they reproach their friends, when dead, with leaving them so soon; at the same time admonishing them from henceforth to demean themselves properly: by which they mean, that their deceased friends should not come back again and haunt them, nor allow themselves to be made use of by wizards to bring any mischief on those that survive them.

There is a genus of insects (the *mantis*) which, it has been generally thought, the Hottentots worship; but our author is so far from being of this opinion, that he tells us they have more than once caught several of them for him, and assisted him in sticking pins through

Hottentots. through them as he did through other insects. "There is (says he), however, a diminutive species of this insect, which some think it would be a crime, as well as very dangerous, to do any harm to: but this we have no more reason to look upon as any kind of religious worship, than we have to consider in the same light a certain superstitious notion prevalent among many of the more simple people in our own country (Sweden), who imagine that three-fins will be forgiven them, if they set a cock-chaffer on its feet that has happened to fall upon its back. The moon, according to Kolbe, receives a kind of adoration from the **Hottentots**; but the fact is, that they merely take the opportunity of her beams, and at the same time of the coolness of the night, to amuse themselves with dancing; and consequently have no more thoughts of worshipping her than the Christian colonists who are seen at that time strolling in great numbers about the streets, and parading on the stone steps with which their houses are usually encircled." The conjurors themselves, according to our author, are generally freethinkers, who have neither religion nor superstition of any kind.

Lieutenant Paterfon has given the following account of the **Caffres**, a nation whom no European but himself has ever seen, and who inhabit the country to the northeast of the Cape as far down as 31° South Latitude.

The men are from five feet ten inches to six feet high, and well proportioned; and in general manifest great courage in attacking lions or other wild beasts. The nation, at the time he visited them, was divided into two parties, one to the northward, commanded by a chief named *Chatha Bea*, or *Tambushie*, which latter appellation he had obtained from his mother, a woman of an **Hottentot** tribe named *Tambukies*. This man was the son of a chief named *Pharoa*, who died about three years before, and left two sons *Cha Cha Bea*, and another named *Dsrika*, who claimed the supreme authority on account of his mother being of the **Caffre** nation. This occasioned a contest between the two brothers, in the course of which *Cha Cha Bea* was driven out of his territories with a great number of his party; after which he took up his residence at a place named *Khouta*, where he had an opportunity of entering into an alliance with the **Boshies-men**.—The **Caffres** are of a jet black colour, their eyes large, and their teeth as white as ivory. The clothing of both sexes is nearly the same; consisting entirely of the hides of oxen, which are made as pliant as cloth. The men wear tails of different animals tied round their thighs, pieces of brass in their hair, and large rings of ivory on their arms: they are likewise adorned with the hair of lions, feathers fastened on their heads, &c. They use the ceremony of circumcision, which is usually performed upon them when they are nine years of age. They are very fond of dogs, which they exchange for cattle, and will even give two bullocks in exchange for one dog which pleases them. They are expert in throwing lances, and in time of war use shields made of the hides of oxen. Throughout the day the men occupy themselves in hunting, fighting, or dancing; the women being employed in the cultivation of their gardens and corn. They seem not to be destitute of the knowledge of agriculture, as they cultivate several vegetables which do not natu-

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Hottentots. rally grow in their own country, viz. tobacco, water-melons, a small kind of kidney-beans, and hemp. The women also make their baskets and the mats on which they lie. The men are very fond of their cattle, and cut their horns in such a manner as to be able to turn them into any shape they please, and teach them to answer to a whistle. Mr Paterfon is of opinion that the country they inhabit is greatly superior to any part of Africa.

Of the Dutch settlements and policy at the Cape, Mr Forster gives the following account.

"The income of the governor here is very considerable; for, besides a fixed appointment, and the use of houses, gardens, proper furniture, and every thing that belongs to his table, he receives about 10 dollars for every leagre of wine which the company buy of the farmer in order to be exported to Batavia. The company allows the sum of 40 dollars for each leagre, of which the farmer receives but 24: what remains is shared between the governor and second or deputy; the former taking two-thirds, which sometimes are said to amount to 4000 dollars per annum. The deputy-governor has the direction of the company's whole commerce here, and signs all orders to the different departments under him, as well as the governor to others. He and the fiscal have the rank of *upper koopman*. The fiscal is at the head of the police, and sees the penal laws put in execution: his income consists of fines, and of the duties laid on certain articles of commerce; but if he be strict in exacting them, he is universally detested. The sound policy of the Dutch has likewise found it necessary to place the fiscal as a check, to overawe the other officers of the company, that they may not counteract the interests of their masters, or infringe the laws of the mother-country. He is, to that end, commonly well versed in juridical affairs, and depends solely upon the mother-country. The major (at present Mr Von Prehn, who received us with great politeness) has the rank of *koopman* or merchant: this circumstance surprises a stranger, who, in all other European states, is used to see military honours confer distinction and precedence; and appears still more singular to one who knows the contrast in this particular between Holland and Russia, where the idea of military rank is annexed to every place, even that of a professor at the university. The number of regular soldiers at this colony amounts to about 700; of which 400 form the garrison of the fort, near the Cape-town. The inhabitants capable of bearing arms form a militia of 4000 men; of whom a considerable part may be assembled in a few hours, by means of signals made from alarm-places in different parts of the country. We may from hence make some estimate of the number of white people in this colony, which is at present so extensive, that the distant settlements are above a month's journey from the Cape: but these remote parts lie sometimes more than a day's journey from each other, are surrounded by various nations of **Hottentots**, and too frequently feel the want of protection from their own government at that distance. The slaves in this colony are at least in the proportion of five or more to one white person. The principal inhabitants at the Cape have sometimes from 20 to 30 slaves, which are in general treated with great lenity,

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Hottentots. and sometimes become great favourites with their masters, who give them very good cloathing, but oblige them to wear neither shoes nor stockings, reserving these articles to themselves. The slaves are chiefly brought from Madagascar, and a little vessel annually goes from the Cape thither on that trade; there are, however, besides them, a number of Malays and Bengalese, and some negroes. The colonists themselves are for the greatest part Germans, with some families of Dutch, and some of French Protestants. The character of the inhabitants of the town is mixed. They are industrious, but fond of good living, hospitable, and social; though accustomed to hire their apartments to strangers for the time they touch at this settlement, and used to be complimented with rich presents of stuffs, &c. by the officers of merchant ships. They have no great opportunities of acquiring knowledge, there being no public schools of note at the Cape; their young men are therefore commonly sent to Holland for improvement, and their female education is too much neglected. A kind of dislike to reading, and the want of public amusements, make their conversation uninteresting, and too frequently turn it upon scandal, which is commonly carried to a degree of inveteracy peculiar to little towns. The French, English, Portuguese, and Malay languages, are very commonly spoken, and many of the ladies have acquired them. This circumstance, together with the accomplishments of singing, dancing, and playing a tune on the lute, frequently united in an agreeable person, make amends for the want of refined manners and delicacy of sentiment. There are, however, among the principal inhabitants, persons of both sexes, whose whole deportment, extensive reading, and well-cultivated understanding, would be admired and distinguished even in Europe. Their circumstances are in general easy, and very often affluent, on account of the cheap rate at which the necessaries of life are to be procured: but they seldom amass such prodigious riches here as at Batavia; and I was told the greatest private fortune at the Cape did not exceed 100,000 dollars, or about 22,500 l. sterling.

"The farmers in the country are very plain hospitable people; but those who dwell in the remotest settlements seldom come to town, and are said to be very ignorant: This may easily be conceived, because they have no better company than Hottentots, their dwellings being often several days journey asunder, which must in a great measure preclude all intercourse. The vine is cultivated in plantations within the compass of a few days journey from the town; which were established by the first colonists, and of which the ground was given in perpetual property to them and their heirs. The company at present never part with the property of the ground, but let the surface to the farmer for an annual rent, which, though extremely moderate, being only 25 dollars for 60 acres, yet does not give sufficient encouragement to plant vineyards. The distant settlements, therefore, chiefly raise corn and rear cattle; nay, many of the settlers entirely follow the latter branch of rustic employment, and some have very numerous flocks. We were told there were two farmers who had each 15,000 sheep, and oxen in proportion; and several who possessed 6000 or 8000 sheep, of which they drive great droves to

town every year: but lions and buffaloes, and the fatigue of the journey, destroy numbers of their cattle before they can bring them so far. They commonly take their families with them in large waggons covered with linen or leather, spread over hoops, and drawn by 8, 10, and sometimes 12 pair of oxen. They bring butter, mutton-tallow, the flesh and skins of sea-cows (hippopotamus), together with lion and rhinoceros' skins to sell. They have several slaves, and commonly engage in their service several Hottentots of the poorer sort, and (as we were told) of the tribe called *BOSHIESMEN*, *Boschemans*, or *Busbmens*, who have no cattle of their own, but commonly subsist by hunting, or by committing depredations on their neighbours. The opulent farmers set up a young beginner by intrusting to his care a flock of 400 or 500 sheep, which he leads to a distant spot, where he finds plenty of good grass and water; the one-half of all the lambs which are yeaned fall to his share, by which means he soon becomes as rich as his benefactor.

"Though the Dutch company seem evidently to discourage all new settlers, by granting no lands in private property; yet the products of the country have of late years sufficed not only to supply the isles of France and Bourbon with corn, but likewise to furnish the mother-country with several ship-loads. These exports would certainly be made at an easier rate than at present, if the settlements did not extend so far into the country, from whence the products must be brought to the Table-bay by land-carriage, on roads which are almost impassable. The intermediate spaces of uncultivated land between the different settlements are very extensive, and contain many spots fit for agriculture; but one of the chief reasons why the colonists are so much divided and scattered throughout the country, is to be met with in another regulation of the company, which forbids every new settler to establish himself within a mile of another. It is evident, that if this settlement were in the hands of the commonwealth, it would have attained to a great population, and a degree of opulence and splendor of which it has not the least hopes at present: but a private company of East-India merchants find their account much better in keeping all the landed property to themselves, and tying down the colonist, lest he should become too great and powerful.

"The wines made at the Cape are of the greatest variety possible. The best, which is made at M. Vander Spy's plantation of Constantia, is spoken of in Europe, more by report than from real knowledge; 30 leagues (or pipes) at the utmost are annually raised of this kind, and each league sells for about 50 l. on the spot. The vines from which it is made were originally brought from Shiraz in Persia. Several other sorts grow in the neighbourhood of that plantation, which produce a sweet rich wine, that generally passes for genuine Constantia in Europe. French plants of burgundy, muscade, and frontignan, have likewise been tried, and have succeeded extremely well, sometimes producing wines superior to those of the original soil. An excellent dry wine, which has a slight agreeable tartness, is commonly drank in the principal families, and is made of Madeira vines transplanted to the Cape. Several low sorts, not entirely disagreeable, are raised in great plenty, and sold at a very cheap rate; so that the

Hottinger the sailors of the East-India ships commonly indulge themselves very plentifully in them whenever they come ashore.

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“The products of the country supply with provisions the ships of all nations which touch at the Cape. Corn, flour, biscuit, salted beef, brandy, and wine, are to be had in abundance, and at moderate prices; and their fresh greens, fine fruits, good mutton and beef, are excellent restoratives to seamen who have made a long voyage.”

HOTTINGER (John Henry), born at Zurich in Switzerland in 1620, professed the Oriental languages at Leyden, and was esteemed by all his learned colleagues. He was drowned, with part of his family, in the river Lemit, in the year 1667. He wrote a prodigious number of works; the principal of which are, 1. *Exercitationes Anti-Morinianæ de Pentateucho Samaritano*, 4to; in which he defends the Hebrew text against father Morin. 2. *Historia Orientalis*, 4to. 3. *Bibliothecarius quadripartitus*. 4. *Thesaurus Philologicus Sacre Scripturæ*, 4to. 5. *Historia Ecclesiastica*. 6. *Promptuarium, sive Bibliotheca Orientalis*, 4to. 7. *Dissertationes miscellaneæ*, &c.

HOTTONIA, WATER-VIOLET: A genus of the monogynia order, belonging to the pentandria class of plants; and in the natural method ranking under the 21st order, *Preciæ*. The corolla is salver-shaped; the stamina are placed in the tube of the corolla; and the capsule is unilocular. There is but one species, viz. the palustris, with a naked stalk. It grows naturally in the standing waters in many parts of England. The leaves, which are for the most part immersed in water, are finely winged and flat like most of the sea-plants; and at the bottom have long fibrous roots, which strike into the mud: the flower-stalks rise five or six inches above the water, and toward the top have two or three whorls of purple flowers, terminated by a small cluster of the same. These flowers have the appearance of those of the stock-gilliflower, so make a pretty appearance on the surface of the water. It may be propagated in deep standing waters, by procuring its seeds when they are ripe, from the places of their natural growth; which should be immediately dropped into the water in those places where they are designed to grow, and the spring following they will appear; and if they are not disturbed, they will soon propagate themselves in great plenty.—Cows eat this plant; swine refuse it.

HOUBRAKEN (Jacob), a celebrated engraver, whose great excellence consisted in the portrait line. His works are distinguished by an admirable softness and delicacy of execution, joined with good drawing, and a fine taste. If his best performances have ever been surpassed, it is in the masterly determination of the features, which we find in the works of Nanteuil, Edelinck, and Drevet: this gives an animation to the countenance, more easily to be felt than described. His works are pretty numerous; and most of them being for English publications, they are sufficiently known in this country. In particular the greater and best part of the collection of portraits of Illustrious men, published in London by I. and P. Knapton, were by his hand.

HOVEDON (Roger de), born of an illustrious family in Yorkshire, most probably at the town of that name, now called *Howden*, some time in the reign of Henry I. After he had received the first parts of edu-

cation in his native country, he studied the civil and canon law, which were then become most fashionable and lucrative branches of learning. He became domestic chaplain to Henry II. who employed him to transact several ecclesiastical affairs; in which he acquitted himself with honour. But his most meritorious work was his annals of England, from A. D. 731, when Bede's ecclesiastical history ends, to A. D. 1202. This work, which is one of the most voluminous of our ancient histories, is more valuable for the sincerity with which it is written, and the great variety of facts which it contains, than for the beauty of its style, or the regularity of its arrangement.

HOUGH, HAM, in the manege, the joint of the hind-leg of a beast, which connects the thigh to the leg. See HAM.

To **HOUGH**, or cut the *Houghs*, is to ham-string, or to disable by cutting the sinews of the ham.

HOULIERES (Antoinette de), a French lady, whose poetry is highly esteemed in France. Her works and those of her daughter have been collected and printed together in two volumes. Most of the Idyls, particularly those on sheep and birds, surpass every thing of the kind in the French language: the thoughts and expressions are noble; and the style pure, flowing, and chaste. Mademoiselle des Houlières carried the poetic prize in the French academy against Fontenelle. Both of these ladies were members of the academy of Ricovatri; the mother was also a member of the academy of Arles. Those who desire to be more particularly acquainted with the history of Madam des Houlières, may consult her life prefixed to her works in the Paris edition of 1747, 2 vols 12mo.

HOULSWORTHY, a large town of Devonshire, seated between two branches of the river Tamer, having a good market for corn and provisions. W. Long. 4. 42. N. Lat. 50. 50.

HOUND. See *CANIS*, *Blood-Hound*, and *GRE-Hound*.

Training of HOUNDS. Before we speak of the methods proper to be used for this purpose, it will be necessary to point out the qualities which sportsmen desire to meet with in these animals. It is generally understood, that hounds of the middle size are the most proper, it being remarked, that all animals of that description are stronger than either such as are very small or very large. The shape of the hound ought to be particularly attended to; for if he be not well proportioned, he can neither run fast nor do much work. His legs ought to be straight, his feet round, and not very large; his shoulders back; his breast rather wide than narrow; his chest deep, his back broad, his head small, his neck thin; his tail thick and bushy, and if he carry it well so much the better. None of those young hounds which are out at the elbows, or such as are weak from the knee to the foot, should ever be taken into the pack. That the pack may look well, it is proper that the hounds should be as much as possible of a size: and if the animals be handsome at the same time, the pack will then be perfect. It must not, however, be thought, that this contributes any thing to the *goodness* of a pack; for very unhandsome packs, consisting of hounds entirely different in size and colour, have been known to afford very good sport. It is only necessary that they should run well together; to which indeed an uniformity in

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size and shape would seem to contribute in some degree. The pack that can run ten miles, or any other considerable space, in the shortest time, may be said to go fastest, though the hounds taken separately might be considerably inferior to others in swiftness. A pack of hounds, considered in a collective body, go fast in proportion to the excellence of their noses and the head they carry. Packs which are composed of hounds of various kinds seldom run well. When the packs are very large, the hounds are seldom sufficiently hunted to be good; twenty or thirty couple, therefore, or at most forty, will be abundantly sufficient for the keenest sportsman in this country, as thus he may be enabled to hunt three or even four times a week. The number of hounds to be kept, must, however, in a considerable degree, depend on the strength of the pack and the country in which you hunt. They should be left at home as seldom as possible; and too many old hounds should not be kept. None ought to be kept above five or six seasons, though this also is somewhat uncertain, as we have no rule for judging how long a hound will last.

† *Essay on
Hunting.*

In breeding of hounds, considerable attention ought to be paid to the dog from whom you breed. All such are to be rejected as have a tender nose, as are *babblers* or *skirters*. An old dog should never be put to an old bitch; nor should any attempts be made to cross the breed unless in a proper and judicious manner. Mr Beckford † informs us, that he has seen fox-hounds bred out of a Newfoundland dog and fox-hound bitch; the whelps were monstrously ugly, and had other bad qualities besides. The cross most likely to be of service to a fox-hound is the beagle. The reason of crossing the breeds sometimes is, that the imperfections of one may sometimes be remedied by another. The months of January, February, and March, are the best for breeding; late puppies seldom thrive. After the females begin to grow big with young, it will not be proper to let them hunt any more, or indeed to remain for a much longer time in the kennel. Sometimes these animals will have an extraordinary number of whelps. Mr Beckford informs us, that he has known a bitch have 15 puppies at a litter; and he assures us, that a friend of his informed him, that a hound in his pack brought forth 16, all of them alive. In these cases it is proper to put some of the puppies to another bitch, if you want to keep them all; but if any are destroyed, the best coloured ought to be kept. The bitches should not only have plenty of flesh, but milk also; and the puppies should not be taken from them till they are able to take care of themselves: their mothers will be relieved when they learn to lap milk, which they will do in a short time. After the puppies are taken away from their mothers, the litter should have three purging balls given them, one every other morning, and plenty of whey the intermediate day. If a bitch bring only one or two puppies, and you have another that will take them, by putting the puppies to her the former will soon be fit to hunt again. She should, however, be first physicked, and it will also be of service to anoint her dugs with brandy and water.

Whelps are very liable to the distemper to which dogs in general are subject, and which frequently makes great havoc among them at their walks; and this is supposed by Mr Beckford to be owing to the

little care that is taken of them. "If the distemper (says he) once get among them, they must all have it: yet notwithstanding that, as they will be constantly well fed, and will lie warm (in a kennel built on purpose), I am confident it would be the saving of many lives. If you should adopt this method, you must remember to use them early to go in couples: and when they become of a proper age, they must be walked out often; for should they remain confined, they would neither have the health, shape, or understanding, which they ought to have. When I kept harriers, I bred up some of the puppies at a distant kennel; but having no servants there to exercise them properly, I found them much inferior to such of their brethren as had the luck to survive the many difficulties and dangers they had undergone at their walks; these were afterwards equal to any thing, and afraid of nothing; whilst those that had been nursed with so much care, were weakly, timid, and had every disadvantage attending private education. I have often heard as an excuse for hounds not hunting a cold scent, that they were too *high-bred*. I confess I know not what that means: but this I know, that hounds are frequently too *ill-bred* to be of any service. It is judgment in the breeder, and patience afterwards in the huntsman, that makes them hunt.

"When young hounds are first taken in, they should be kept separate from the pack; and as it will happen at a time of the year when there is little or no hunting, you may easily give them up one of the kennels and grafs court adjoining. Their play frequently ends in a battle; it therefore is less dangerous where all are equally matched.—If you find that they take a dislike to any particular hound, the safest way will be to remove him, or it is probable they will kill him at last. When a feeder hears the hounds quarrel in the kennel, he halloos to them to stop them; he then goes in among them, and flogs every hound he can come near. How much more reasonable, as well as efficacious, would it be, were he to see which were the combatants before he speaks to them. Punishment would then fall, as it ought, on the guilty only. In all packs there are some hounds more quarrelsome than the rest; and it is to them we owe all the mischief that is done. If you find chastisement cannot quiet them, it may be prudent to break their holders; for since they are not necessary to them for the meat they have to eat, they are not likely to serve them in any good purpose. Young hounds should be fed twice a day, as they seldom take kindly to the kennel meat at first, and the distemper is most apt to seize them at this time. It is better not to round them till they are thoroughly settled; nor should it be put off till the hot weather, for then they would bleed too much. It may be better perhaps to round them at their quarters, when about six months old; should it be done sooner, it would make their ears tuck up. The tailing of them is usually done before they are put out; it might be better, perhaps, to leave it till they are taken in. Dogs must not be rounded at the time they have the distemper upon them, as the loss of blood would weaken them too much.

"If any of the dogs be thin over the back, or any more quarrelsome than the rest, it will be of use to cut them: I also spay such bitches as I shall not want to breed from; they are more useful, are stouter, and are

Hound.

Hound. are always in better order; besides it is absolutely necessary if you hunt late in the spring, or your pack will be very short for want of it. The latter operation, however, does not always succeed; it will be necessary therefore to employ a skilful person, and one on whom you can depend; for if it be ill done, though they cannot have puppies, they will go to heat notwithstanding. They should be kept low for several days before the operation is performed, and must be fed on thin meat for some time after."

It is impossible to determine how many young hounds ought to be bred in order to keep up the pack, as this depends altogether on contingencies. The deficiencies of one year must be supplied by the next; but it is probable, that from 30 to 35 couple of old hounds, and from eight to twelve couple of young ones, will answer the purpose where no more than 40 couple are to be kept. A considerable number, however, ought always to be bred; for it is undoubtedly, and evidently true, that those who breed the greatest number of hounds must expect the best pack.

After the hounds have been rounded, become acquainted with the huntsman, and answer to their names, they ought to be coupled together, and walked out among sheep. Such as are particularly ill-natured ought to have their couples loose about their necks in the kennel till they become reconciled to them. The most stubborn ought to be coupled to old hounds rather than to young ones; and two dogs should not be coupled together when you can avoid it. As young hounds are awkward at first, a few ought only to be set out at a time with people on foot, and they will soon afterwards follow a horse. When they have been walked out often in this manner amongst the sheep, they should be uncoupled by a few at a time, and those chastised who offer to run after the sheep; but it will be difficult to reclaim them after they have once been allowed to taste blood. Some are accustomed to couple the dogs with a ram in order to break them from sheep; but this is very dangerous for both parties. Mr Beckford relates a story of a nobleman who put a large ram into his kennel in order to break his hounds from sheep; but when he came some time after to see how nobly the ram defended himself, he found him entirely eaten up, and the hounds gone to sleep after having filled their bellies.

When hounds are to be aired, it is best to take them out separately, the old ones one day, and the young another; though, if they are to have whey from a distant dairy, both old and young may be taken out together, observing only to take the young hounds in couples, when the old ones are along with them. Young hounds are always apt to fall into mischief, and even old ones when idle will be apt to join them. Mr Beckford mentions a whole pack running after a flock of sheep through the mere accident of a horse's falling, and then running away.

With regard to the first entering of hounds to a scent, our author gives such directions as have subjected him to a severe charge of inhumanity. We shall give them in his own words. "You had better enter them at their own game; it will save you much trouble afterwards. Many dogs, I believe, like that scent best which they were first blooded to: but be this as it may, it is most certainly reasonable to use them to that which it is intended they should hunt. It may

not be amiss first when they begin to hunt to put light collars on them. Young hounds may easily get out of their knowledge; and shy ones, after they have been much beaten, may not choose to return home. Collars, in that case, may prevent their being lost.—You say you like to see your young hounds run a trail-scent.—I have no doubt that you would be glad to see them run over an open down, where you could so easily observe their action and their speed. I cannot think the doing of it once or twice could hurt your hounds; and yet as a sportsman I dare not recommend it to you. All that I can say is, that it would be less bad than entering them at hare. A cat is as good a trail as any; but on no account should any trail be used after your hounds are stooped to a scent. I know an old sportsman who enters his young hounds first at a cat, which he drags along the ground for a mile or two, at the end of which he turns out a badger, first taking care to break his teeth: he takes out about a couple of old hounds along with the young ones to hold them on. He never enters his young hounds but at vermin; for he says, Train up a child in the way he should go, and when he is old he will not depart from it!"

Hounds ought to be entered as soon as possible, though the time must be uncertain, as it depends on the nature of the country in which they are. In corn countries hunting may not be practicable till the corn is cut down; but you may begin sooner in grass countries, and at any time in woodlands. "If (says Mr Beckford) you have plenty of foxes, and can afford to make a sacrifice of some of them for the sake of making your young hounds steady, take them first where you have least riot, putting some of the steadiest of your old hounds among them. If in such a place you are fortunate enough to find a litter of foxes, you may assure yourself you will have but little trouble with your young hounds afterwards.—If, owing to a scarcity of foxes, you should stoop your hounds at hare, let them by no means have the blood of her; nor, for the sake of consistency, give them much encouragement. Hare-hunting has one advantage;—hounds are chiefly in open ground, where you can easily command them; but notwithstanding that, if foxes be in tolerable plenty, keep them to their own game.—Frequent hallooing is of use with young hounds; it keeps them forward, prevents their being lost, and hinders them from hunting after the rest. The oftener therefore that a fox is seen and halloosed, the better. I by no means, however, approve of much hallooing to old hounds; though it is true that there is a time when hallooing is of use, a time when it does hurt, and a time when it is perfectly indifferent: but long practice and great attention to hunting can only teach the application.

"Hounds at their first entrance cannot be encouraged too much. When they are become handy, love a scent, and begin to know what is right, it will then be soon enough to chastise them for what is wrong; in which case one severe beating will save a great deal of trouble. When a hound is flogged, the whipper-in should make use of his voice as well as his whip. If any be very unsteady, it will not be amiss to send them out by themselves when the men go out to exercise their horses. If you have hares in plenty, let some be found sitting, and turned out before them; and you will find that the most riotous will not run after them. If you in-

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tend them to be steady from deer, they should often see deer, and then they will not regard them; and if after a probation of this kind you turn out a cub before them, with some old hounds to lead them on, you may assure yourself they will not be unsteady long."

It is proper to put the young hounds into the pack when they stoop to a scent, become handy, know a rate, and stop easily. A few only are to be put to the pack at a time; and it is not advisable even to begin this till the pack have been out a few times by themselves, and "are gotten well in blood." They should be low in flesh when you begin to hunt; the ground being generally hard at that time, so that they are liable to be shaken.—By hounds being *handy*, our author means their being ready to do whatever is required of them; and particularly, when cast, to turn easily which way the huntsman pleases.

Mr Beckford begins to hunt with his young hounds in August. The huntsman in the preceding months keeps his old hounds healthy by giving them proper exercise, and gets his young hounds forward; and for this purpose nothing answers so well as taking them frequently out. The huntsman should go along with them, get frequently off his horse, and encourage them to come to him:—too much restraint will frequently incline the hounds to be riotous. Our author frequently walks out his hounds among sheep, hares, and deer. Sometimes he turns down a cat before them, which they kill; and when the time of hunting approaches, he turns out young foxes or badgers; taking out some of the most steady of his old hounds to lead on the young ones. Small covers and furze-brakes are drawn with them to use them to a halloo, and to teach them obedience. If they find improper game and hunt it, they are stopped and brought back; and as long as they will stop at a rate, they are not chastised. At such times as they are taken out to air, the huntsman leads them into the country in which they are designed to hunt; by which means they acquire a knowledge of the country, and cannot miss their way home at any time afterwards. When they begin to hunt, they are first brought into a large cover of his own, which has many ridings cut in it; and where young foxes are turned out every year on purpose for them. After they have been hunted for some days in this manner, they are sent to more distant covers, and more old hounds added to them. There they continue to hunt till they are taken into the pack, which is seldom later than the beginning of September; for by that time they will have learned what is required of them, and seldom give much trouble afterwards. In September he begins to hunt in earnest; and after the old hounds have killed a few foxes, the young ones are put into the pack, two or three couple at a time, till all have hunted. They are then divided; and as he seldom has occasion to take in more than nine or ten couple, one half are taken out one day, and the other the next, till they are steady.

To render fox-hunting complete, no young hounds should be taken into the pack the first season;—a requisite too expensive for most sportsmen. The pack should consist of about 40 couple of hounds, that have hunted one, two, three, four, or five seasons. The young pack should consist of about 20 couple of young hounds, and an equal number of old ones. They should have a separate establishment, and the two kennels

should not be too near one another. When the season is over, the best of the young hounds should be taken into the pack, and the draught of old ones exchanged for them. Many must be bred to enable a sportsman to take in 20 couple of young hounds every season. It will always be easy to keep up the number of old hounds; for when your own draft is not sufficient, drafts from other packs may be obtained, and at a small expence. When young hounds are hunted together for the first season, and have not a sufficient number of old ones along with them, it does more harm than good.

Kennel for HOUNDS. See KENNEL.

HOUNSLOW, a town of Middlesex, 10 miles from London. It is situated on a heath of the same name; and belongs to two parishes, the north side of the street to Heston, and the south side to Isleworth. It is situated on the edge of a heath of the same name, and near it are powder-mills. It has fairs on Trinity-Monday, and Monday after September 29. Here is a charity-school and a chapel. In this place was formerly a convent of mendicant friars, who, by their institution, were to beg alms for the ransom of captives taken by the infidels.—The heath is noted for robberies and horse-races.

HOU-QUANG, a province of China, occupying nearly the centre of the empire: the river Yang-tse-kiang traverses it from west to east; and divides it into two parts, the northern and southern. This province (the greater part of which is level, and watered by lakes, canals, and rivers) is celebrated for its fertility; the Chinese call it the store-house of the empire; and it is a common saying among them, that "the abundance of Kiang-si could furnish all China with a breakfast; but the province of Hou-quang alone could supply enough to maintain all its inhabitants." Some princes of the race of Hong-you formerly resided in this province; but that family was entirely destroyed by the Tartars when they conquered China. The people here boast much of their cotton cloths, simples, gold-mines, wax, and paper made of the bamboo-reed. The northern part of the province contains eight *fou*, or cities of the first class, and sixty of the second and third. The southern comprehends seven of the first class, and fifty-four of the second and third, exclusive of forts, towns, and villages, which are every where to be found.

HOUR, in chronology, an aliquot part of a natural day, usually a 24th, but sometimes a 12th. The origin of the word *hora*, or *ωρα*, comes, according to some authors, from a surname of the sun, the father of hours, whom the Egyptians call *Horus*. Others derive it from the Greek *ορίζω*, to *terminate*, *distinguish*, &c. Others from the word *υπο* *urine*; holding, that Trismegistus was the first that settled the division of hours, which he did from observation of an animal consecrated to Serapis, named *cynocephalus*, which makes water 12 times a-day, and as often in the night, at equal intervals.

An hour, with us, is a measure or quantity of time, equal to a 24th part of the natural day, or nycthemeron; or the duration of the 24th part of the earth's diurnal rotation. Fifteen degrees of the equator answer to an hour; though not precisely, but near enough for common use. It is divided into 60 minutes; the minute into 60 seconds, &c.

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The division of the day into hours is very ancient: as is shown by Kircher, *Oedipt. Egypt.* Tom. II. P. II. class. VII. c. 8.: though the passages he quotes from Scripture do not prove it.—The most ancient hour is that of the 12th part of the day. Herodotus, lib. ii. observes, that the Greeks learnt from the Egyptians, among other things, the method of dividing the day into twelve parts.—The astronomers of Cathaya, &c. bishop Beveridge observes, still retain this division. They call the hour *chag*; and to each *chag* give a peculiar name, taken from some animal: The first is called *zeth*, “mouse;” the second, *chiu*, “bullock;” the third, *zem*, “leopard;” the fourth, *mau*, “hare;” the fifth, *chiu*, “crocodile, &c.

The division of the day into 24 hours, was not known to the Romans before the first Punic war.—Till that time they only regulated their days by the rising and setting of the sun. They divided the 12 hours of their day into four, viz. *prime*, which commenced at six o'clock; *third*, at nine; *sixth*, at twelve, and *none*, at three. They also divided the night into four watches, each containing three hours.

HOURS, HORÆ, in the ancient mythology, were certain goddesses, the daughters of Jupiter and Themis; at first only three in number, Eunomia, Dice, and Irene; to which were afterwards added two more, Carpo and Thallote.

Homer makes them the doorkeepers of heaven. Ovid allots them the employment of harnessing the sun:

Jungere equos Titan velocibus imperat Horis.

And speaks of them as standing, at equal distances, about the throne of Sol:

—et, posita spatiis equalibus, Horæ.

The poets represent them as dressed in fine coloured or embroidered robes, and gliding on with a quick and easy motion.

HOURS, *Horæ*, in the Romish church, are certain prayers performed at stated times of the day; as matins, vespers, lauds, &c.—The lesser hours are, *prime*, *terce*, *sixth*, and *none*. They are called *hours*, or *canonical hours*, as being to be rehearsed at certain hours prescribed by the canons of that church, in commemoration of the mysteries accomplished at those hours. These hours were anciently also called *course*, *curfus*; F. Mabillon has a dissertation on them, intitled, *De Cursu Gallicano*.

The first constitution enjoining the observation of the canonical *hours*, is of the ninth century, being found in a capitular of Heito bishop of Basil directed to his curates, importing that the priests shall never be absent at the canonical hours either by day or night.

Hour-Glass, a popular kind of chronometer or clepsydra, serving to measure the flux of time by the descent or running of sand out of one glass vessel into another. The best hour-glasses are those which, instead of sand, have egg-shells well dried in the oven, then beaten fine and sifted.—Hour-glasses are much used at sea for reckoning, &c.

HOURIS, in modern history, is a name given by the Mahometans to those females that are designed for the faithful in paradise. These are not the same with whom they have lived on earth, but formed for this purpose with singular beauty and undecaying charms.

HOUSE, a habitation, or place built with conveniences for dwelling in. See ARCHITECTURE.

Houses, amongst the Jews, Greeks, and Romans,

were flat on the top for them to walk upon, and had usually stairs on the outside, by which they might ascend and descend without coming into the house. Each house, in fact, was so laid out, that it inclosed a quadrangular area or court. This court was exposed to the weather, and being open to the sky, gave light to the house. This was the place where company was received, and for that purpose it was strewed with mats or carpets for their better accommodation. It was paved with marble or other materials, according to the owner's ability, and provided with an umbrella of vellum to shelter them from the heat and inclemencies of the weather. This part of their houses, called by the Romans *impluvium*, or *cavaedium*, was provided with channels to carry off the water into the common sewers. The top of the house was level, and covered with a strong plaster by way of terrace. Hither, especially amongst the Jews, it was customary to retire for meditation, private converse, devotion, or the enjoyment of the evening breezes.

The Grecian houses were usually divided into two parts, in which the men and women had distinct mansions assigned. The part assigned to the men was towards the gate, and called *Andronitis*; the apartment of the women was the farthest part of the house, and called *Gynaikonitis*. Jews, Greeks, and Romans, supposed their houses to be polluted by dead bodies, and to stand in need of purification.

HOUSE is also used for one of the estates of the kingdom of Britain assembled in parliament. Thus we say, the house of lords, the house of commons, &c. See PEERS, COMMONS, &c.

HOUSE is also used for a noble family, or a race of illustrious persons issued from the same stock. In this sense we say, the house or family of the Stuarts, the Bourbons, the house of Hanover, of Austria, of Lorraine, of Savoy, &c.

Cheap, easy, and expeditious Method of constructing HOUSES, which have been found to be very useful hospitals for the recovery of the sick, and therefore may probably make very wholesome places of residence for the healthy.—The first thing to be done is to choose a dry and airy situation, on a gravelly or chalky soil if possible; upon this lay down the plan of your building, make one end of it face that quarter from whence the purest and healthiest winds may be expected to blow, of a breadth that can be conveniently roofed. Then, if boarding does not come so cheap, drive stakes, at about six feet distance from each other, into the ground, so as to stand about six feet above it; and, interlacing them with wattles, coat the wattles on the side next the weather with fresh straw; and make the roof in the same manner, but thicker, or of thatch in the usual way, with a hole at the very top of it, to open occasionally. Let the end of the building facing the wholesomest quarter lie open some feet back, so as to form a porch, where the convalescents may take the air without danger of any injury from the weather. A large chimney and kitchen grate may be erected at the other end. If the soil happens to be chalky or gravelly, you may hollow it four or five feet deep, within a foot or eighteen inches of the walls; but let the steps into this hollow lie far enough within the porch, that no water may get into it, and, if of chalk, the steps may not grow slippery in wet weather. From time to time open the vent-hole at the roof; by means

House.

House.

of which all the unwholesome infectious air, as being warmer, and consequently lighter, than that which is pure and wholesome, will be driven out by the rushing in of the fresh air: a purpose, which the little openings, that may be left in the sides and roofs of such rude and hasty buildings, will, even of themselves, answer so well, as sufficiently to compensate any cold they may let in, even in the coldest months. Let the floor likewise be scraped three or four inches deep every five or six days, and what comes off removed to some distance. Halls of this kind, 50 feet long and 20 broad, cost but a trifle to build; yet, with these precautions (even without the addition of clean straw for every new patient to lie on, inclosed in clean washed sacks fit for the purpose, which come infinitely cheaper than the bare cleaning of flock or even feather-beds, supposing it possible to wash such beds), proved of infinitely more advantage in the recovery of sick soldiers, than the low-roofed rooms of the farm-houses of the Isle of Wight, or even the better accommodations of Carisbrooke castle in the same island, in which there perished four times the number of sick that there did in these temporary receptacles; which were first thought of by doctor Procklesby, on occasion of some terrible infections from confined animal effluvia.

Is it not surprising, that we have not availed ourselves more of the above discovery in natural history, being, perhaps, the most important the moderns can boast of, in the most useful science, viz. the superior lightness of unwholesome and infectious air! The upper sashes in most houses, even of those who pretend to some knowledge in these matters, are generally immoveable, by means of which no part of the foul air above the level of the lowest rail of the other sash's greatest rise can escape by the window; and, if it escapes by the doors, it is generally for want of a vent in the highest part of the roof, merely to accumulate in the upper story of the house, and add to the infection, which the great quantities of old furniture usually stored up there are of themselves but too apt to create, when care is not frequently taken to open the windows of it. Thus, the chief benefit to be expected from lofty rooms is in a great measure lost. Whereas, were the upper sashes contrived to come down, all the air might be easily changed, and that almost insensibly, by letting them down an inch or two. Nay, the upper sash might be often let entirely down with less danger or inconvenience from cold, than the lower thrown up the tenth part of an inch, though the doing of the former would be attended with infinitely more advantage to the health of the inhabitants than the latter. It is, perhaps, on this principle, that we are to account for the good health enjoyed by the poor who live crowded in damp cellars, and often with great numbers of rabbits, poultry, and even swine about them. These cellars are open to the street, with doors reaching from the floor to the very ceiling, but never so close at bottom or at top as to prevent a free circulation of air; in consequence of which, that all-vivifying fluid, as fast as it is spoiled by passing through the lungs of the inhabitants and their stock, or is infected by their insensible perspiration, excrements, &c. is driven out and replaced by the fresh air.

N^o 158.

HOUSE, in astrology, denotes the twelfth part of the heavens.

The division of the heavens into houses, is founded upon the pretended influence of the stars, when meeting in them, on all sublunary bodies. These influences are supposed to be good or bad; and to each of these houses particular virtues are assigned, on which astrologers prepare and form a judgment of their horoscopes. The horizon and meridian are two circles of the celestial houses, which divide the heavens into four equal parts, each containing three houses; six of which are above the horizon and six below it; and six of these are called *eastern* and six *western houses*.

A scheme or figure of the heavens is composed of 12 triangles, all called *houses*, in which is marked the stars, signs, and planets, so included in each of these circles. Every planet has likewise two particular houses, in which it is pretended that they exert their influence in the strongest manner; but the sun and moon have only one, the house of the former being Leo, and that of the latter Cancer.

The houses in astrology have also names given them according to their qualities. The first is the house of life: this is the ascendant, which extends five degrees above the horizon, and the rest below it. The second is the house of riches: the third, the house of brothers: the fourth, in the lowest part of the heavens, is the house of relations, and the angle of the earth: the fifth, the house of children: the sixth, the house of health: the seventh, the house of marriage, and the angle of the west: the eighth, the house of death: the ninth, the house of piety: the tenth, the house of offices: the eleventh, the house of friends: and the twelfth, the house of enemies.

COUNTRY-HOUSE, is the *villa* † of the ancient Romans, the *quinta* of the Spaniards and Portuguese, the *closerie* and *cassine* of the French, and the *vigna* of the Italians. † See *Villa*.

It ought always to have wood and water near it; these being the principal beauties of a rural seat. The trees make a far better defence than hills, as they yield a cooling and healthy air, shade during the heat of summer, and very much break the severities of the winter season.

It should not be situated too low, on account of the moisture of the air; and, on the other hand, those built on places exposed to the winds are expensive to keep in repair. In houses not above two stories high, and upon a good foundation, the length of two bricks, or 18 inches, for the heading course, will be sufficient for the ground-work of any common structure; and six or seven courses above the earth, to a water-table, where the thickness of the walls are abated or taken in, on either side the thickness of a brick, viz. two inches and a quarter. But for large and high houses of three, four, or five stories, with garrets, their walls ought to be three heading courses of bricks, or 28 inches at least, from the foundation to the first water-table; and at every story a water-table, or taking in, on the inside, for the summers, girders, and joists to rest upon, laid into the middle, or one quarter of the wall at least, for the better bond. But as for the partition-wall, a brick and half will be sufficiently thick; and for the upper stories, a brick length or nine inch brick will suffice.

Hot-House. See *STOVE* and *HYPOCAUSTUM*.

HOUSE.

House,
Household.

House-Breaking, or *Robbing*, is the breaking into and robbing a house in the day-time; the same crime being termed *BURGLARY* when done by night: both are felony without benefit of clergy.

HOUSEHOLD, the whole of a family considered collectively, including the mistress, children, and servants. But the household of a sovereign prince includes only the officers and domestics belonging to his palace.

The principal officers of his majesty's household are, the lord steward, lord chamberlain of the household, the groom of the stole, the master of the great wardrobe, and the master of the horse.

The civil government of the king's house is under the care of the lord steward of the king's household; who, being the chief officer, all his commands are observed and obeyed. His authority extends over all the other officers and servants, except those of his majesty's chapel, chamber, and stable, and he is the judge of all crimes committed either within the court or the verge.

Under him are the treasurer of the household, the comptroller, cofferer, the master of the household, the clerks of the green-cloth, and the officers and servants belonging to the accounting-house, the marshalsea, the verge, the king's kitchen, the household kitchen, the acatery, bake-house, pantry, buttery, cellar, pastry, &c. Next to the lord steward is the lord chamberlain of the household, who has under him the vice-chamberlain, the treasurer, and comptroller of the chamber; 48 gentlemen of the privy chamber, 12 of whom wait quarterly, and two of them lie every night in the privy-chamber; the gentleman usher, the grooms of the great chamber, the pages of the presence-chamber; the mace-bearers, cup-bearers, carvers, musicians, &c. See *LORD CHAMBERLAIN of the Household*.

The groom of the stole has under him the 11 other lords of the bed-chamber, who wait weekly in the bed-chamber, and by turns lie there a-nights on a pallet-bed; and also the grooms of the bed-chamber, the pages of the bed-chamber and back-stairs, &c. See *Groom of the STOLE*.

The master or keeper of the great wardrobe has under him a deputy, comptroller, clerk of the robes, brusher, &c. and a number of tradesmen and artificers, who are all sworn servants to the king.

The master of the horse has under his command the equerries, pages, footmen, grooms, coachmen, farriers, saddlers, and all the other officers and tradesmen employed in his majesty's stables.

Next to the civil list of the king's court, is the military, consisting of the band of gentlemen pensioners, the yeomen of the guard, and the troops of the household; of which the two first guard the king above stairs.

When the king dines in public, he is waited upon at table by his majesty's cup-bearers, carvers, and gentlemen sewers; the musicians playing all the time. The dinner is brought up by the yeomen of the guard, and the gentlemen sewers set the dishes in order. The carvers cut for the king, and the cup-bearers serve him the drink with one knee on the ground, after he has first tasted it in the cover.

House and Window Duty, a branch of the king's extraordinary revenue*.—As early as the conquest mention is made in domesday book of sumage or fu-

gage, vulgarly called *smoke-farthings*; which were paid by custom to the king for every chimney in the house. And we read that Edward the Black Prince (soon after his successes in France), in imitation of the English custom, imposed a tax of a florin upon every hearth in his French dominions. But the first parliamentary establishment of it in England was by statute 13 & 14 Car. II. c. 10. whereby an hereditary revenue of 2s. for every hearth, in all houses paying to church and poor, was granted to the king for ever. And, by subsequent statutes, for the more regular assessment of this tax, the constable and two other substantial inhabitants of the parish, to be appointed yearly (or the surveyor appointed by the crown, together with such constable or other public officer), were, once in every year, empowered to view the inside of every house in the parish. But, upon the Revolution, by stat. 1. W. & M. c. 10. hearth-money was declared to be "not only a great oppression to the poorer sort, but a badge of slavery upon the whole people, exposing every man's house to be entered into and searched at pleasure, by persons unknown to him; and therefore, to erect a lasting monument of their majesties goodness, in every house in the kingdom the duty of hearth-money was taken away and abolished." This monument of goodness remains among us to this day: but the prospect of it was somewhat darkened, when in six years afterwards, by statute 7 W. III. c. 18. a tax was laid upon all houses (except cottages) of 2s. now advanced to 3s. *per* house, and a tax also upon all windows, if they exceeded nine, in such house. Which rates have been from time to time varied, being now extended to all windows exceeding six; and power is given to surveyors, appointed by the crown, to inspect the outside of houses, and also to pass through any house, two days in the year, into any court or yard, to inspect the windows there.

Schemes of the different rates of duty upon houses and windows may be seen in the *Almanacks*, or in *Kearfley's Tax-Tables* published yearly.

House-Leek, in botany. See *SEDUM* and *SEMPERVIVUM*.

HOUSING, or *House-Line*, in the sea-language, a small line, formed of three fine strands or twists of hemp, smaller than rope-yarn. It is chiefly used to seize blocks into their strops, to bind the corners of the sails, or to fasten the bottom of a sail to its bolt-rope, &c. See *BOLT-Rope*.

HOUSING, or *Houfee*, a cover laid over the saddle of a horse, in order to save it from the weather, dirt, &c. The word is formed of the French *houffe*, which signifies the same thing; though it anciently denoted a kind of hood worn by country people.—The cavaliers appeared with their embroidered housings.

HOUSING, among bricklayers, a term used for a brick which is warped, or is cast crooked or hollow in burning; in such a case, they say it is *housing*.

HOUSTONIA, in botany; a genus of the monogynia order, belonging to the tetrandria class of plants; and in the natural method ranking under the 47th order, *Stellata*. The corolla is monopetalous and funnel-shaped; the capsule bilocular, dispermous, superior.

HOU-TCHEOU-FOU, a city of China, in the province of Tche-kiang. It is a city of the first class; and is situated on a lake, from which it takes its name. The quantity of silk manufactured here is almost incredible.

Household
Hou-
tcheou-fou.

* See *Revenue*.

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dible. To give some idea of it, we shall only say, that the tribute paid by a city under its jurisdiction, named *Te-ssin-bien*, amounts to more than 500,000 *taëls* or ounces of silver. Its district contains seven cities, one of which is of the second, and six of the third, class.

HOWARD (HENRY), earl of Surry, a soldier and a poet, the son and grandson of two lord treasurers, dukes of Norfolk, was born probably about the year 1520, and educated in Windsor castle, with young Fitzroy earl of Richmond, natural son to king Hen. VIII. Wood says, from tradition, that he was some time a student at Cardinal College, Oxford. In his youth he became enamoured of the Fair Geraldine, whom his sonnets have immortalized. In 1532, Howard with his companion Richmond was at Paris, where they continued some time. The latter died in 1536; after which our young hero made a tour to Italy; and at Florence, like a true *enamorado*, published a challenge against all comers, whether Christians, Jews, Saracens, Turks, or cannibals, in defence of the beauty of his fair Geraldine; and was victorious in the tournament instituted by the grand duke on the occasion. The duke, we are told, was so charmed with his gallant exploits, that he would gladly have retained him at his court; but he rejected the invitation, being determined to maintain the superlative beauty of his Geraldine in all the principal cities in Italy. This romantic resolution was however frustrated by the command of his sovereign, Henry VIII. to return to England.

In 1540, he signalized himself in a tournament at Westminster, against Sir John Dudley, Sir Thomas Seymour, and others. In 1542, he marched, under the command of his father, against the Scots; and in the same year was confined in Windsor castle for eating flesh in Lent, contrary to the king's proclamation. In 1544, on the expedition to Boulogne in France, he was appointed field-marshal of the English army; and after the taking of that town, in 1546, made captain-general of the king's forces in France. He was at this time knight of the garter. In the same year, attempting to intercept a convoy, he was defeated by the French, and soon after superseded in his command by the earl of Hertford.

Surry, after his return to England, conscious of his former services, and peevish under his disgrace, could not help reflecting on the king and council. This was his first step towards destruction. He had married Frances, the daughter of John earl of Oxford; and, after her death, is said to have made love to the princess Mary. For this the Seymours, rivals of the Norfolk family, and now in favour with the king, accused him of aspiring to the crown; adding, that he already presumed to quarter part of the royal arms with his own; but, whatever might be the pretence, the cause of his ruin was the jealousy and power of his enemies. In short, the destruction of the Howards being determined, Surry, and his father the duke of Norfolk, were committed to the Tower, in December 1546; and on the 13th of January following, Surry was tried at Guild-hall by a common jury, and beheaded on Tower-hill on the 19th day of the same month, nine days before the death of the king; who thus, that the measure of his crimes might be full, finished his life with the murder of his best subject. The accusations brought against this amiable and innocent young noble-

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man on his trial, were so extremely ridiculous, that one is astonished how it was possible, even in the most despotic reign, to find a judge and jury so pusillanimously villanous as to carry on the farce of justice on the occasion. We boast of our excellent constitution, and our trial by juries; but this example may teach us, that our constitution and our juries are not incompatible with despotic monarchy. He was first interred in the church of All-hallows, Barkin, near Tower-hill; and afterwards, in the reign of king James I. removed to Farmingham in Suffolk, by his son Henry earl of Northampton.

As to the character of this unfortunate earl, all our poets have sung his praise. Mr Walpole begins his anecdotes of Surry with these words: "We now emerge from the twilight of learning to an almost classic author, that ornament of a boisterous, yet not unpolished court, the earl of Surry, celebrated by Drayton, Dryden, Fenton, Pope, illustrated by his own muse, and lamented for his unhappy death: a man (as Sir Walter Raleigh says) no less valiant than learned, and of excellent hopes." Leland calls him the conscript enrolled heir of Sir Thomas Wyatt, the elder, in his learning and other excellent qualities; and the author of *The Art of English Poetry* says, that the earl of Surry, and Sir Thomas Wyatt, may be justly called the *reformers of our poetry and style*. His poems were published in 1557, 12mo; and in 1565, 1574, 1585, 1587, 8vo. Several of the sonnets are by Sir Thomas Wyatt and others.

HOWARD (Charles), an able statesman and experienced seamen, was the son of lord William Howard, baron of Effingham, and born in 1536. He served under his father, who was lord high admiral of England, till the accession of queen Elizabeth. In January 1573, he succeeded his father in his title and estate: after which he successively became chamberlain of the household and knight of the garter; and in 1585 was made lord high admiral, at that critical juncture when the Spaniards were sending their ARMADA, in their opinion, to the assured conquest of this kingdom. When he received intelligence of the approach of the Spanish fleet, and saw the prodigious consequence it was to get out the few ships that were ready at Plymouth, he not only gave orders in every thing himself, but wrought also with his own hands, and the first night left the port with six ships. The next morning, though he had only 30 sail, and those the smallest of the fleet, he attacked the Spanish navy; but first dispatched his brother-in-law Sir Edward Hobby, to the queen to desire her to make the proper disposition of her land-forces for the security of the coast, and to hasten as many ships as possible to his assistance. His valour was conspicuously displayed in his repeated attacks of a superior enemy. The coolness of his temper was no less conspicuous; and it was owing to his magnanimity and prudence that the victory was so great. The queen expressed her sense of his merit in the most honourable terms; and granted him a pension for life. In 1596, he commanded in chief at sea, as Essex did by land, the forces sent against Spain, when his prudence and moderation were among the principal causes of the success the English met with in that great and glorious enterprize; so that, upon his return the next year, he was advanced to the dignity of earl of Nottingham.

The

Howard. The next eminent service in which his Lordship was engaged was in 1599, when the Spaniards seemed to meditate a new invasion. Her majesty, who always placed her safety in being too quick for her enemies, drew together, in a fortnight's time, such a fleet, and such an army, as took away all appearance of success from her foreign and domestic enemies; and she gave the earl the sole and supreme command of both the fleet and army, with the title of *lord lieutenant general of all England*, an office unknown in succeeding times. When age and infirmity had unfitted him for action, he resigned his office, and spent the remaining part of his life in ease and retirement, till the time of his decease, which happened in 1624, in the 87th year of his age.

HOWARD (John), Esq; a man of singular and transcendent humanity, was the son of a reputable tradesman in St Paul's church-yard. He was born about the year 1725 or 1726; and at a proper age was put apprentice to Mr Nathaniel Newnham, a wholesale grocer in Watling street. His father died, leaving only this son and a daughter, to both of whom he bequeathed handsome fortunes; and by his will directed that his son should not be considered of age till he was five and twenty. His constitution was thought very weak, and his health appeared to have been injured by the necessary duties of his apprenticeship; and therefore, at the expiration of it, he took an apartment in a lodging-house in Church-street, Stoke Newington, Middlesex; but not meeting with the tenderest treatment there, he removed to another lodging-house in the same street, which was kept by a widow lady Mrs Sarah Lardeau, a worthy sensible woman, but an invalid. Here he was nursed with so much care and attention, that he resolved to marry his landlady out of gratitude for her kindness. In vain she expostulated with him upon the extravagance of such a proceeding, he being about 28 and she about 51 years of age, and 20 years older in constitution: but nothing could alter his resolution, and they were privately married about the year 1752. She was possessed of a small fortune, which he presented to her sister. During his residence at Newington, the minister of the dissenting meeting-house there resigned his office, and a successor was elected; and Mr Howard, who was bred a dissenter, and steadfastly adhered all his life to that profession, proposed to purchase the lease of a house near the meeting-house, and to appropriate it as a parsonage-house for the use of the minister for the time being, and contributed 50*l.* for that purpose. His wife died November 10. 1755, aged 54; and he was a sincere and affectionate mourner for her death. About this time, it is believed, he was elected F. R. S. In the year 1756 he had the fortune to experience some of the evils which it afterwards became the business of his life to redress. He embarked that year in a Lisbon packet, the *Hanover*, in order to make the tour of Portugal; when the vessel was taken by a French privateer. "Before we reached Brest (says he*) I suffered the extremity of thirst, not having for above 40 hours one drop of water, nor hardly a morsel of food. In the castle at Brest I lay six nights upon straw; and observing how cruelly my countrymen were used there and at Morlaix, whither I was carried next, during the two months I was at Carhaix upon parole, I corresponded with the English prisoners at Brest, Morlaix, and Din-

nan: at the last of those towns were several of our ship's crew, and my servant. I had sufficient evidence of their being treated with such barbarity, that many hundreds had perished, and that 36 were buried in a hole at Dinnan in one day. When I came to England, still on parole, I made known to the commissioners of sick and wounded seamen the sundry particulars, which gained their attention and thanks. Remonstrance was made to the French court: our sailors had redress; and those that were in the three prisons mentioned above, were brought home in the first cartel ships.—Perhaps (adds Mr Howard) what I suffered on this occasion increased my sympathy with the unhappy people whose case is the subject of this book."

He afterwards, it is said, made the tour of Italy; and at his return settled at Brokenhurst, a retired and pleasant villa in the New Forest, near Lymington in Hampshire, having, April 25. 1758, married a daughter of Edward Leeds, Esq; of Croxton, Cambridgeshire, king's serjeant. This lady died in 1765 in child-bed, of her only child, a son, who unfortunately became lunatic. After her death Mr Howard left Lymington, and purchased an estate at Cardington, near Bedford.

"While he lived here in retirement (says Mr Palmer†), it was his meat and drink to make his neighbours happy. His neat but humble mansion was ever hospitable to a few select friends, but was never the scene of riot or luxurious banqueting. Though polite to all, he neither sought nor admitted the company of the profligate, however distinguished by rank or fortune.—His charity had no bounds, except those of prudence; and was not more commendable for the extent of it, than for the manner in which it was exercised. He gave not his bounty to countenance vice and idleness, but to encourage virtue and industry. He was singularly useful in furnishing employment for the labouring poor of both sexes, at those seasons when a scarcity of work rendered their situation most compassionate. And at other times, though never inattentive to the tale of woe, he was not easily imposed upon by it, but made himself acquainted with the case. He had indeed a general acquaintance with the cases and characters of the poor around him, and made it his business to visit the abodes of affliction. In circumstances of bodily disorder he often acted the part of a physician as well as a friend. But his kindness was not confined to the bodies of his fellow-creatures, it extended to their spiritual and immortal part. He carefully watched over the morals of his neighbourhood, and used his advice, his admonitions, and influence, to discountenance immorality of all kinds, and to promote the knowledge and practice of religion. As a most effectual means to this great end, he provided for the instruction of poor children, by erecting and supporting schools, which he carefully superintended. In short, he was a universal blessing to the village where he resided, in every part of which are to be seen the pleasing monuments of his munificence and taste.—His liberality extended also to adjacent places, in which there are many who will call him blessed. Nor was it confined to persons of his own religious persuasion, but comprehended the necessitous and deserving of all parties; while he was particularly useful in serving the interest of the Christian society to

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Funeral Sermons on the death of Mr Howard.

* On Prisoners, 4to, 1784, p. 11.

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which he belonged. What wonder if such a man were universally beloved? Was it possible he should have an enemy? One however he had (and I never heard of more), an idle and dissolute wretch, who, having been often reproved by him for his vices, formed the desperate resolution to murder him as he was going to public worship, which he almost always did on foot. But Providence remarkably interposed to preserve so valuable a life, by inclining him that morning to go on horseback a different road."

But the sphere in which he had hitherto moved was too narrow for his enlarged mind. Being named in 1773 to the office of sheriff of Bedfordshire, from that time his scene of usefulness was extended. His office, as he himself observes, brought the distress of prisoners more immediately under his notice. A sense of duty induced him personally to visit the county-jail, where he observed such abuses, and such scenes of calamity, as he had before no conception of; and he soon exerted himself in order to a reform. With a view to obtain precedents for certain regulations which he purposed, he went to inspect the prisons in some neighbouring counties. But finding in them equal room for complaint and commiseration, he determined to visit the principal prisons in England. The farther he proceeded, the more shocking were the scenes presented to his view: which induced him to resolve upon exerting himself to the utmost, in order to a general reform in these horrid places of confinement; considering it as of the highest importance, not only to the wretched objects themselves, but to the community at large. Upon this subject he was examined in the house of commons in March 1774, when he had the honour of their thanks. This encouraged him to proceed in his design. He revisited all the prisons in the kingdom, together with the principal houses of correction. He also in 1775 enlarged his circuit by going into Wales, Scotland, and Ireland, where he found the same need of reformation.

One grand object which he had in view was, to put a stop to that shocking distemper called the *jail-fever*; which raged so dreadfully in many of the prisons, as to render them to the last degree offensive and dangerous: A distemper, by which more had been taken off than by the hands of the executioner; and which, in several instances, had been communicated from the prisoners into the courts of justice, and had proved fatal to the magistrates and judges, and to multitudes of persons who attended the trials, as well as to the families of discharged felons and debtors. Another end he proposed was, to procure the immediate release of prisoners, who, upon trial, were acquitted, but who often continued long to be unjustly detained for want of being able to pay the accustomed fees: As also to abolish many other absurd and cruel usages which had long prevailed. But the great object of all was, to introduce a thorough reform of morals into our prisons; where he had found the most flagrant vices to prevail in such a degree, that they were become seminaries of wickedness and villany, and the most formidable nuisances to the community; in consequence of the promiscuous intercourse of prisoners of both sexes, and of all ages and descriptions; whereby the young and less experienced were initiated, by old and hardened sinners, into all the

arts of villany and the mysteries of iniquity; so that, instead of being reformed by their confinement (which should be the chief end of punishment), those that were discharged became more injurious to society than before.

Howard.

In order to the attainment of these great objects, Mr Howard spared no pains nor expence, and cheerfully exposed himself to much inconvenience and hazard; particularly from that malignant distemper, of which he saw many dying in the most loathsome dungeons, into which none, who were not obliged, besides himself, would venture. "I have been frequently (says Mr Howard) asked what precautions I use to preserve myself from infection in the prisons and hospitals which I visit. I here answer, next to the free goodness and mercy of the Author of my being, temperance and cleanliness are my preservatives. Trusting in divine Providence, and believing myself in the way of my duty, I visit the most noxious cells; and while thus employed, I fear no evil. I never enter an hospital or prison before breakfast; and in an offensive room, I seldom draw my breath deeply."

His laudable endeavours he had the pleasure to see, in some instances, crowned with success; particularly in regard to the healthiness of prisons, some of which were rebuilt under his inspection. Through his interposition also, better provision has been made for the instruction of prisoners, by the introduction of bibles and other pious books into their cells, and a more constant attendance of clergymen. The gaolers likewise have, by act of parliament, been rendered incapable of selling strong liquors, which had been the source of much drunkenness and disorder. But a minute detail of particulars is not to be expected here; for these the reader is referred to Mr Howard's publications, which show that much is yet wanting.

But in order to a more general and happy regulation, and the reformation of criminals, he determined to visit other countries, to see the plans there adopted; in hope of collecting some information which might be useful in his own country. For this purpose he travelled into France, Flanders, Holland, Germany, and Switzerland. Afterwards through the Prussian and Austrian dominions. He visited also the capitals of Denmark, Sweden, Russia, and Poland, and some cities in Portugal and Spain. In all these expensive and hazardous journeys, he denied himself the usual gratifications of travellers, and declined the honours which were offered him by persons of the first distinction, applying himself solely to his one grand object. To him the inspection of a jail, or hospital, was more grateful than all the entertainments of a palace. With what astonishment and gratitude he was received by their miserable inhabitants may easily be imagined, since while he made observations on their situation, he meditated their relief; and many distressed prisoners abroad, as well as at home, partook of his bounty, and some were liberated by it; for he considered all of every nation, and people, and tongue, as brethren. Nor was he sparing of advice, or of reproof, as he saw occasion, to persons of rank and influence, whereby the miseries of their countrymen might be relieved. As he courted the favour of none, neither did he fear the frowns of any; but, with a manly freedom and a Christian fortitude, spoke his mind to crowned heads

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Howard. (particularly the late emperor of Germany) in a manner to which they were not accustomed; which, however, in a person of such disinterested views, procured him reverence and esteem, and in some instances proved effectual for relieving the miserable and oppressed. On his return, he published in 1777, "The State of the Prisons in England and Wales, with Preliminary Observations, and an Account of some foreign Prisons." 4to. And in 1778 he took a third journey through the Prussian and Austrian dominions, and the free cities of Germany, and likewise extended his tour through Italy, and revisited some of the countries he had before seen. The observations he made in this tour were published in an appendix, 1780; containing also some remarks respecting the management of prisoners of war, and the hulks on the Thames. But wishing to acquire some further knowledge on the subject, he in 1781 again revisited Holland and some cities in Germany. He visited also the capitals of Denmark, Sweden, Russia, and Poland; and in 1783 some cities in Portugal and Spain, and returned through France, Flanders, and Holland. The substance of all these travels was afterwards thrown into one narrative, which was published in 1784. He also published a curious account of the Bastile, in 8vo; that infamous French prison happily now no more.

His travels and exertions, however, were not yet at an end. He conceived a further design, which was to visit the principal lazarettos in France and Italy, in order to obtain information concerning the best methods to prevent the spreading of the plague, with a view to apply them with respect to other infectious disorders. Not gaining all the satisfaction here which he wished for, he proceeded to Smyrna and Constantinople, where that most dreadful of human distempers actually prevailed, "pleasing himself (as he said) with the idea of not only learning, but of being able to communicate somewhat to the inhabitants of those distant regions." In the execution of this design, though he was so much exposed to danger, and actually caught the plague, "that merciful Providence (as he himself piously remarks) which had hitherto preserved him, was pleased to extend his protection to him in this journey also, and to bring him home once more in safety." In his return he revisited the chief prisons and hospitals in the countries through which he passed; and afterwards went again to Scotland, and then to Ireland, where he proposed a new and very important object; namely, to inspect the Protestant Charter Schools, in some of which he had before observed shameful abuses, which he had reported to a committee of the Irish House of Commons. In this more extensive tour, he took a particular account of what he observed amiss in the conduct of this noble charity, with a view to a reformation, and not without considerable success. In the course of these journeys, particular cities and communities were not unmindful to pay him proper respect. At Dublin, he was created by the university a Doctor of Laws; and the city of Glasgow and the town of Liverpool did honour to themselves by enrolling him among their members. Upon his return home, having again inspected the prisons in England, and the hulks on the Thames, to see what alterations had been made for the better (which he found to be very considerable, though yet

imperfect), he published the result of his last laborious investigations, in "An Account of the principal Lazarettos in Europe, with various Papers relative to the Plague, together with further Observations on some Foreign Prisons and Hospitals, and additional Remarks on the present State of those in Great-Britain and Ireland," with a great number of curious plates. The work likewise contained Observations on Penitentiary Houses, which had been encouraged by act of parliament, for the correction and reformation of criminals, of which he and Dr Fothergill had been nominated by the king to be superintendants. Beside these, he published the Grand Duke of Tuscany's "new Code of Criminal Law with an English Translation:" and of all his publications he gave away a vast number of copies among his acquaintance in the most liberal manner. His laying open the horrors of despotism in a neighbouring country had very nearly exposed him to the sufferings of them; and had it not been for the timely notice of our ambassador, he had ended his days in the Bastile.

Not satisfied, however, with what he had already done, he concludes his "Account of Lazarettos" with announcing his "intention again to quit his country, for the purpose of revisiting Russia, Turkey, and some other countries, and extending his tour in the East. I am not insensible (says he) of the dangers that must attend such a journey. Trusting, however, in the protection of that kind Providence which has hitherto preserved me, I calmly and cheerfully commit myself to the disposal of unerring wisdom. Should it please God to cut off my life in the prosecution of this design, let not my conduct be uncandidly imputed to rashness or enthusiasm, but to a serious deliberate conviction that I am pursuing the path of duty, and to a sincere desire of being made an instrument of more extensive usefulness to my fellow-creatures than could be expected in the narrower circle of a retired life." Accordingly, to the great concern of his friends, he set out in summer 1789 on this hazardous enterprise; the principal object of which was to administer a medicine in high repute at home, in malignant fevers*, 'Dr James's Powder. under a strong persuasion that it would be equally efficacious in the plague. In this second tour in the East "it did please God to cut off his life:" for, having spent some time at Cherson, a new settlement of the Empress of Russia, in the mouth of the Dnieper or Borysthene, toward the northern extremity of the Black Sea, near Oczakow, he caught, in visiting the Russian hospital of that place, or as some say a young lady who was ill of the same complaint, a malignant fever, which carried him off on the 20th of January, after an illness of about twelve days: and after having been kept, according to his express directions to his servant, five days, he was buried, by his own desire, in the garden of a villa in the neighbourhood, belonging to a French gentleman from whom he had received great civilities, by his faithful servant who had attended him on his former journeyings, and whom he expressly enjoined not to return home till five weeks from his death. While absent on his first tour to Turkey, &c. his character for active benevolence had so much attracted the public attention, that a subscription was set on foot to erect a statue to his honour, and in no long space above L. 1500 was subscribed for that purpose.

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† See *Gent.
Mag.* vol.
lvii. p. 101.

† Speech at
Guildhall in
Bristol,
1780.

purpose. But some of those who knew Mr Howard best, never concurred in the scheme, being well assured that he would neither countenance nor accede to it; and in consequence of two letters from Mr Howard himself† to the subscribers, the design was laid aside. It has, however, been resumed since his death: And surely, of all the statues or monuments ever erected by public gratitude to illustrious characters either in ancient or modern times, none was ever erected in honour of worth so genuine and admirable as his—who devoted his time, his strength, his fortune, and finally sacrificed his life, in the pursuits of humanity:—who (to adopt the expressive words of Mr Burke ‡) “visited all Europe [and the East], not to survey the sumptuousness of palaces, or the stateliness of temples; not to make accurate measurements of the remains of ancient grandeur, nor to form a scale of the curiosity of modern art; not to collect medals, or to collate manuscripts; but to dive into the depth of dungeons; to plunge into the infection of hospitals; to survey the mansions of sorrow and of pain; to take the gauge and dimensions of misery, depression, and contempt; to remember the forgotten; to attend to the neglected; to visit the forsaken; and to compare and collate the distresses of all men in all countries. His plan is original; and it is as full of genius as it is of humanity. It is a voyage of discovery, a circumnavigation of charity; and already the benefit of his labour is felt more or less in every country.”

HOWDEN, a town in the East Riding of Yorkshire, 180 miles from London, stands on the north side of the Ouse, has a market on Saturdays, and four fairs in the year. Here was formerly a collegiate church of five prebendaries, erected in the last century but one; adjacent to which the bishops of Durham, who possess many estates hereabouts with a temporal jurisdiction, have a palace. One of them built a very tall steeple to the church here; whither the inhabitants might retire in case of inundations; to which it is very liable from the great freshes that come down the Ouse sometimes at ebb. This part of the county is from hence called Howdenshire, and is watered by a conflux of several large rivers that fall into the Humber. At Howdendike is a ferry over the Ouse.

HOWE (John), a learned English nonconformist divine born in 1630. He became minister of Great Torrington in Devonshire, and was appointed household chaplain to Cromwell; but seems to have been free from the fanaticism then in fashion, as he offended Cromwell greatly by preaching against the notion of particular faith, which the ministers of his court were great advocates for. When Oliver died, he continued chaplain to Richard; and when Richard was deposed, he returned to Torrington, where he continued till the act of uniformity took place and set him aside. He afterwards settled at Utrecht, until the declaration for liberty of conscience was published by king James II. under shelter of which he returned to London, where he died in 1705. He published a great number of sermons and religious works, which have been reprinted together in two vols folio.

Howe-Island, a small island of the South Sea, discovered by captain Wallis, called by the inhabitants of the Society-Island *Mopeha*; lies in S. Lat. 16. 46. and W. Long. 154. 8.

Lord Howe's Island, a small island in the neighbourhood of New South Wales, discovered on February 17. 1788, S. Lat. 31. 36. E. Long. 159. 04. It is of an arched figure, lying from north-west to south-east, the two extremities including a space of about six miles, though, by reason of the curved figure of the island itself, it is near seven in length. It is deeply indented on the middle of the eastern part by a bay named Ross's Bay, and on the opposite and western part has another named Prince William Henry's Bay; so that the whole has the appearance of two islands joined together by an isthmus, which in some places is not above half a mile broad. On the southern part of that division which lies most to the northward are two considerable bays, named Callam's and Hunter's Bay; and on the south-western part of the other are two high mountains, the most southerly named Mount Gower, and the other Mount Lidgbird. The convex part of the island lying towards the north-east, and the concave side towards the opposite quarter, is terminated by two points named Point King and Point Philip. No fresh water was found on the island; but it abounds with cabbage-palms, mangrove, and manchineel trees, even up to the summits of the mountains. There are plenty of ganets, and a land fowl of a dusky brown colour, with a bill about four inches long, and feet like those of a chicken. These were found to be remarkably fine meat, and were very fat. There are many large pigeons, and the white birds found in Norfolk Island were also met with in this place. The bill of this bird is red, and very strong, thick, and sharp pointed. Great numbers of fine turtle frequent this island in summer, but go to the northward in winter. These, it was imagined, would prove of great service to the colony at Port Jackson; but, from some cause or other, it appears they have hitherto been disappointed. Plenty of fish were caught by a hook and line. At the distance of about four leagues from Lord Howe's Island is a very remarkable and high rock, to which the name of Ball's Pyramid has been given. This island may be approached without danger; but about four miles from the south west part of the pyramid there is a very dangerous rock, which shows itself above the surface of the water, and appears not to be larger than a boat. The southern part of the island is lined with a sandy beach, which is guarded against the sea by a reef of coral rock, at the distance of half a mile from the beach, through which there are several small openings for boats; but there is nowhere a greater depth of water within the reef than four feet. By the account of Mr Watts, who visited this island in his return from Port Jackson, the isthmus which joins the two parts has evidently been overflowed, and the island disjoined, as in the very centre the men saw large beds of coral rocks and great quantities of shells; and on the east, which seems in general to be the weather-side, the sea has thrown up a bank of sand from 25 to 30 feet high, which serves as a barrier against future inundations. The island also appears to have suffered by volcanic eruptions, as great quantities of pumice-stones and other matters of that kind were found upon it. Mr Austin also found the whole reef which shelters the west bay a burnt-up mass. The time he visited the island was that of the incubation of the ganets, of which there were then prodigious

Howe.

Howel ous numbers, their nests being only hollows made in the sand, there not being any quadrupeds on the island to disturb them. Besides the large pigeons already mentioned, they met with beautiful parrots and parroquets; a new species of the coote, as well as of the rail and magpie. They found likewise a very beautiful small bird of a brown colour with a yellow breast, and yellow on the wing, which seemed to be a species of humming bird. They found also a black bird like a sheerwater, having a hooked bill; and which burrows in the ground. The only insects met with here were the common earth worm and ants; which last were in great plenty. Besides the trees already mentioned, they found several esculent vegetables, as scurvy-grass, celery, spinach, endive, and samphire.

HOWEL (James), a voluminous writer of the 17th century, supported himself many years by writing and translating of books. Though he had been a zealous loyalist, he afterwards flattered Cromwell; yet on the restoration he was made historiographer to the king, being the first in England who enjoyed that title. He died in 1666.

HOWITZ, a kind of mortar, mounted upon a field-carriage like a gun. The difference between a mortar and a howitz is, that the trunnions of the first are at the end, and at the middle in the last. The invention of howitzes is of much later date than mortars, for they really had their origin from them. The constructions of howitzes are as various and uncertain as those of mortars, excepting the chambers, which are all cylindric. They are distinguished by the diameter of the bore; for instance, a ten inch howitz is that the diameter of which is 10 inches; and so of the smaller ones.

HOWTH, a promontory which forms the northern entrance of the bay of Dublin, having a small village about seven miles north-east from that city in the province of Leinster. It gives title of earl to the family of St Lawrence, who were so called from a victory obtained by them over the Irish on St Lawrence's day 1177, their former name being Tristram; and this place has continued in possession of the family above 600 years. N. Lat. 53. 21. W. Long. 6. 22. The shores off this hill are rocky and precipitous, affording, however, a few harbours for small craft. It was formerly called Ben-hedar, i. e. "the Birds promontory;" and celebrated for having Dun Criomthan, or the rath or royal palace of Criomthan erected on it, he having been chief or king of that district, and memorable for making several successful descents on the coast of Britain against the Romans in the time of Agricola. Howth, though now stripped of trees, was formerly covered with venerable oaks, and was a seat of the Druids; one of their altars still remains in a sequestered valley on the east side of the hill. The mansion-house is built in form of a castle, and was probably erected by Sir Armoricus Tristram. Near the house stands the family chapel, and on the western shore are the ruins of St Mary's church, with some ancient monuments of lord Howth's ancestors. Due west of Howth house are the ruins of St Fenton's church.

HOY, a small vessel, chiefly used in coasting, or carrying goods to or from a ship, in a road or bay, where the ordinary lighters cannot be managed with safety or convenience.

It would be very difficult to describe, precisely, the marks of distinction between this vessel and some others of the same size, which are also rigged in the same manner; because what is called a *boy* in one place, would assume the name of a *sloop* or *finack* in another; and even the people who navigate these vessels, have, upon examination, very vague ideas of the marks by which they are distinguished from those above mentioned. In Holland, the hoy has two masts; in England, it has but one, where the main-sail is sometimes extended by a boom, and sometimes without it. Upon the whole, it may be defined a small vessel, usually rigged as a sloop, and employed for carrying passengers and luggage from one place to another, particularly on the sea-coast.

Hoy, an island of Scotland, and one of the Orkades. It is about 10 miles long; and that part called *Waes* is fruitful and pretty populous, and is a good place for fishing.

HOYE, a town of Germany, in Westphalia, and capital of a county of the same name. It is seated on the river Weser, and is subject to the elector of Hanover. E. Long. 9. 0. N. Lat. 53. 5.

HUAHINE, one of the *SOCIETY ISLANDS*, in the South Sea, situated in S. Lat. 16. 43. W. Long. 150. 52. and is about seven or eight leagues in compass. Its surface is hilly and uneven, and it has a safe and convenient harbour. It was first discovered by captain Cook in 1769. It is divided by a deep inlet into two peninsulas connected by an isthmus, which is entirely overflowed at high water. From the appearance of its hills it may be concluded, that the country has at some period or other been the seat of a volcano. The summit of one of them had much the appearance of a crater, and a blackish spongy earth was seen upon one of its sides, which seemed to be lava; and the rocks and clay every where had a burnt appearance. The island is plentifully supplied with water by many rivulets which descend from the mountains and broken rocks. The inhabitants are nearly as fair as Europeans; and their conduct is bolder than that of the inhabitants of the other Society Islands. They are a stout large made people, some of the tallest being six feet three inches in height; they are extremely indolent, and seem to have as little curiosity as fear. The dogs are in great favour with all their women, "who could not have caressed them (says Mr Forster) with a more ridiculous affection if they had been European ladies of fashion." Here was seen a middle-aged woman, whose breasts were full of milk, offering them to a little puppy who had been trained up to suck them. The sight disgusted those who saw it so much, that they could not forbear expressing their dislike to it; but the woman smiled, and told them that she allowed young pigs to do the same. It appeared afterwards that this woman had lost her child. Some of the gentlemen were present at a dramatic entertainment on this island: the piece represented a girl running away from her parents; and seemed to be levelled at a female passenger who had come in captain Cook's ship from Otaheite, and who happened to be present at the representation. It made such an impression on the girl, that the gentlemen could scarce prevail upon her to see the piece out, or to refrain from tears while it was acting. It concluded with the reception she was supposed to meet with from her

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her friends, which was made out not to be a very agreeable one.—These people introduce extempore pieces upon occasion; and it is most probable that this was meant as a satire upon the girl above mentioned, and to discourage others from acting in the same manner.

HUBER (Ulric), one of the greatest civilians in the 17th century, was born at Dockum in 1636. He became professor of law at Franeker; and wrote, 1. A treatise *De jure civitatis*. 2. *Jurisprudencia Frisica*. 3. *Specimen philosophiae civilis*. 4. *Institutiones historiae civilis*; and several other works which are esteemed. He died in 1694.

HUBERT (St), a town of the Netherlands, on the confines of Liege, with a very fine abbey, where they bring those that are bit by mad animals to be cured. E. Long. 5. 25. N. Lat. 34. 32.

HUBNER (John), a learned geographer of Germany, taught geography at Leipzig and Hamburg with extraordinary reputation; and died at Hamburg in 1732, aged 63. His principal work is A Geographical treatise, printed at Basil in 1746, in 6 vols 12mo.

HUDSON (Jeffrey). See DWARF.

HUDSON (Henry), an eminent English navigator, who, about the beginning of the last century, undertook to find out a passage by the north-east or north-west to Japan and China. For this purpose he was four times fitted out: he returned three times unsuccessful; but in the last voyage, in 1610, being persuaded that the great bay to which his name has been since given, must lead to the passage he sought, he wintered there, to prosecute his discovery in the spring. But their distresses during the winter producing a mutiny among his men, when the spring arrived, they turned him, with his son and seven sick men, adrift in his own shallop, and proceeded home with the ship. As Hudson and his unhappy companions were never heard of afterward, it is to be supposed they all perished.

HUDSON (John), a very learned English critic, born in 1662. He distinguished himself by several valuable editions of Greek and Latin authors; and, in 1701, was elected head keeper of the Bodleian library at Oxford. In 1712, he was appointed principal of St Mary's Hall, through the interest of the famous Dr Ratchiffe; and it is said that the university of Oxford is indebted for the most ample benefactions of that physician to Dr Hudson's solicitations. He died in 1719, while he was preparing for publication a catalogue of the Bodleian library, which he had caused to be fairly transcribed in six folio volumes.

Hudson's Bay, a large bay of North America, lying between 51 and 69 degrees of latitude, discovered in 1610 by Henry Hudson. This intrepid mariner, in searching after a north-west passage to the South-seas, discovered three straits, through which he hoped to find out a new way to Asia by America. He had made two voyages before on the same adventure; the first in 1607, and the second in 1608. In his third and last, 1610, he entered the straits that lead into this new Mediterranean, the bay known by his name; coasted a great part of it; and penetrated to eighty degrees and an half into the heart of the frozen zone. His ardour for the discovery not being abated by the difficulties he struggled with in this empire of winter, and

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world of frost and snow, he staid here until the ensuing spring, and prepared in the beginning of 1611 to pursue his discoveries; but his crew, who suffered equal hardships, without the same spirit to support them, mutinied, seized upon him and seven of those who were most faithful to him, and committed them to the fury of the icy seas in an open boat. Hudson and his companions were either swallowed up by the waves, or gaining the inhospitable coast were destroyed by the savages; but the ship and the rest of the men returned home. Other attempts towards a discovery were made in 1612 and 1667; and a patent for planting the country, with a charter for a company, was obtained in the year 1670. In 1746 Captain Ellis wintered as far north as 57 degrees and a half, and Captain Christopher attempted farther discoveries in 1761. But besides these and the late voyages, which satisfy us that we must not look for a passage on this side of the latitude 67 degrees north, we are indebted to the Hudson's Bay Company for a journey by land; which throws much additional light on this matter, by affording what may be called demonstration, how much farther north, at least in some parts of their voyage, ships must go, before they can pass from one side of America to the other. The northern Indians, who come down to the company's factories to trade, had brought to the knowledge of our people a river, which on account of much copper being found near it, had obtained the name of the Copper-mine river. The company being desirous of examining into this matter with precision, directed Mr Hearne, a young gentleman in their service, and who having been brought up for the navy and served in it the war before last, was extremely well qualified for the purpose, to proceed over land under the convoy of those Indians, for that river, which he had orders to survey if possible quite down to its exit into the sea; to make observations for fixing the latitudes and longitudes; and to bring home maps and drawings both of it and the countries through which he should pass. Accordingly Mr Hearne set out from Prince of Wales's Fort, on Churchill river, latitude $58^{\circ} 47\frac{1}{2}'$ North, and longitude $94^{\circ} 7\frac{1}{2}'$ West from Greenwich, on the 7th of December 1770. On the 13th of June he reached the Copper-mine river, and found it all the way, even to its exit into the sea, encumbered with shoals and falls, and emptying itself into it over a dry flat of the shore, the tide being then out, which seemed by the edges of the ice to rise about 12 or 14 feet. This rise, on account of the falls, will carry it but a very small way within the river's mouth, so that the water in it had not the least brackish taste. Mr Hearne was nevertheless sure of the place it emptied itself into being the sea, or a branch of it, by the quantity of whalebone and seal skins which the Esquimaux had at their tents; and also by the number of seals which he saw upon the ice. The sea at the river's mouth was full of islands and shoals as far as he could see by the assistance of a pocket telescope; and the ice was not yet (July 17th) broken up, but thawed away only for about three quarters of a mile from the shore, and for a little way round the islands and shoals which lay off the river's mouth. But he had the most extensive view of the sea when he was about eight miles up the river; from which station the extreme parts of it bore N. W.

by

Hudson.

Hudson's
Bay.

by W. and N. E. By the time Mr Hearne had finished his survey of the river, which was about one o'clock in the morning on the 18th, there came on a very thick fog and drizzling rain; and as he had found the river and sea in every respect unlikely to be of any utility, he thought it unnecessary to wait for fair weather to determine the latitude more exactly by observation; but by the extraordinary care he took in observing the courses and distances, walking from Congecathawhachaga, where he had two very good observations, he thinks the latitude may be depended on within 20' at the utmost. It appears from the map which Mr Hearne constructed of this singular journey, that the mouth of the Copper-mine river lies in latitude 72° N. and longitude 25° W. from Churchill river; that is about 119° W. of Greenwich. Mr Hearne's journey back from the Copper-mine river to Churchill lasted till June 30th 1772; so that he was absent almost a year and seven months. The unparalleled hardships he suffered, and the essential service he performed, met with a suitable reward from his masters, and he was made governor of Prince of Wales's Fort on Churchill river. But though the adventurers failed in the original purpose for which they navigated this bay, their project, even its in failure, has been of great advantage to this country, as is shown under the article COMPANY (*Hudson's Bay*.)

The country lying round Hudson's Bay is called *New Britain*, or the country of the Esquimaux; comprehending *Labrador*, now North and South Wales. The entrance of the bay from the ocean, after leaving to the north Cape Farewell and Davis's Straits, is between Resolution isles on the north, and Button's isles on the Labrador coast to the south, forming the eastern extremity of the straits distinguished by the name of its great discoverer. The coasts are very high, rocky, and rugged at top; in some places precipitous, but sometimes exhibit large beaches. The isles of Salisbury, Nottingham, and Digges, are also very lofty and naked. The depth of water in the middle of the bay is a hundred and forty fathoms. From Cape Churchill to the south end of the bay are regular soundings; near the shore shallow, with muddy or sandy bottom. To the north of Churchill the soundings are irregular, the bottom rocky, and in some parts the rocks appear above the surface at low water. From Moose river or the bottom of the bay to Cape Churchill the land is flat, marshy, and wooded with pines, birch, larch, and willows. From Cape Churchill to Wager's Water the coasts are all high and rocky to the very sea, and woodless, except the mouths of Pockerekesko and Seal rivers. The hills on their back are naked, nor are there any trees for a great distance inland.

The mouths of all the rivers are filled with shoals; except that of Churchill, in which the largest ships may lie: but ten miles higher, the channel is obstructed with sand-banks; and all their rivers, as far as has been navigated, are full of rapids and cataracts from ten to sixty feet perpendicular. Down these rivers the Indian traders find a quick passage; but their return is a labour of many months. As far inland as the company have settlements, which is six hundred miles to the west, at a place called Hudson House, lat. 53. long. 106. 27 from London, is flat country: nor is it

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known how far to the eastward the great chain seen by our navigators from the Pacific Ocean branches off.

The climate even about Hays's river, in only lat. 57, is during winter excessively cold. The snows begin to fall in October, and continue falling by intervals the whole winter; and when the frost is most rigorous, in form of the finest sand. The ice on the rivers is eight feet thick. Port-wine freezes into a solid mass; brandy coagulates. The very breath fell on the blankets of the beds in the form of a hoar frost, and the bed-cloaths often were found frozen to the wall. The sun rises in the shortest day at five minutes past nine, and sets five minutes before three. In the longest day the sun rises at three, and sets about nine. The ice begins to disappear in May, and hot weather commences about the middle of June, which at times is so violent as to scorch the face of the hunters. Thunder is not frequent, but very violent. But there must be great difference of heat and cold in this vast extent, which reaches from lat. 50. 40, to lat. 63 north.—During winter the firmament is not without its beauties. Mock suns and halos are not unfrequent; they are very bright, and richly tinged with all the colours of the rainbow. The sun rises and sets with a large cone of yellowish light. The night is enlivened with the Aurora Borealis, which spreads a thousand different lights and colours over the whole concave of the sky, not to be defaced even by the splendour of the full moon; and the stars are of a fiery redness.

The eastern boundary of the bay is Terra di Labrador; the northern part has a straight coast facing the bay, guarded with a line of isles innumerable. A vast bay, called the Archiwinnipy Sea, lies within it, and opens into Hudson's Bay by means of Gulph Hazard, through which the Beluga whales dart in great numbers. Here the company had a settlement for the sake of the fishery, and for trading with the Esquimaux; but deserted it as unprofitable about the year 1758 or 1759. The eastern coast is barren past the efforts of cultivation. The surface is every where uneven, and covered with masses of stone of an amazing size. It is a country of fruitless valleys and frightful mountains, some of an astonishing height: the first watered by a chain of lakes, formed not from springs but rain and snow, so chilly as to be productive of only a few small trout. The mountains have here and there a blighted shrub, or a little moss. The valleys are full of crooked stunted trees, pines, fir, birch, and cedars, or rather a species of Juniper. In lat. 60, on this coast, vegetation ceases. The whole shore, like that on the west, is faced with islands at some distance from land. The inhabitants among the mountains are Indians; along the coasts Esquimaux. The dogs of the former are very small; of the latter large, and headed like a fox. Notwithstanding they have rein-deer, they never train them for the sledge; but apply the dogs to that use. Walruses visit a place called Nuchvunk, in lat. 60, during winter; from thence the natives purchase the teeth with which they head their darts. Davis suspected that he had found a passage on this coast, in 1586, to the Western ocean; but it proves no more than a deep bay.

The laudable zeal of the Moravian clergy induced them to send, in the year 1752, missionaries from

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Green-

Hudson's
Bay.

Hudson's
Bay
Hudsonia.

Greenland to this country. They fixed on Nisbet's harbour for their settlement; but the first party was partly killed, partly driven away. In 1764, under the protection of our government, another attempt was made. The missionaries were well received by the Esquimaux, and the mission goes on with success.

The animals of these countries are, the moose deer, stags, rein-deer, bears, tygers, buffaloes, wolves, foxes, beavers, otters, lynxes, martins, squirrels, ermins, wild cats, and hares. The rein-deer pass in vast herds towards the north in October, seeking the extreme cold. The male polar bears rove out at sea, on the floating ice, most of the winter, and till June: the females lie concealed in the woods, or beneath the banks of rivers till March, when they come abroad with their twin cubs, and bend their course to the sea in search of their consorts. Several are killed in their passage; and those which are wounded show vast fury, roar hideously, and bite and throw up into the air even their own progeny. The females and the young, when not interrupted, continue their way to sea. In June the males return to shore, and by August are joined by their consorts, with the cubs, by that time of a considerable size. The feathered kinds are, geese, bustards, ducks, partridges, and all manner of wild-fowls. Indeed multitudes of birds retire to this remote country to Labrador and Newfoundland, from places most remotely south, perhaps from the Antilles; and some even of the most delicate little species. Most of them, with numbers of aquatic fowls, are seen returning southward with their young broods to more favourable climates. The savages in some respects regulate their months by the appearance of birds; and have their goose month from the vernal appearance of geese from the south. All the grouse kind, ravens, cinereous crows, titmouse, and Lapland finch, brave the severest winter; and several of the falcons and owls seek shelter in the woods. Of fish, there are whales, moroses, seals, cod-fish, and a white fish preferable to herrings; and in their rivers and fresh waters, pike, perch, carp, and trout.

All the quadrupeds of these countries are clothed with a close, soft, warm fur. In summer there is here, as in other places, a variety in the colours of the several animals; when that season is over, which holds only for three months, they all assume the livery of winter, and every sort of beasts, and most of their fowls, are of the colour of the snow; every thing animate and inanimate is white. This is a surprising phenomenon. But what is yet more surprising, and what is indeed one of the most striking things, that draw the most inattentive to an admiration of the wisdom and goodness of Providence, is, that the dogs and cats from Britain that have been carried into Hudson's Bay, on the approach of winter have entirely changed their appearance, and acquired a much longer, softer, and thicker coat of hair than they had originally.

Hudson's Bay Company. See COMPANY.

Hudson's River, a large river of North America, which rises on the east of Lake Ontario, and running by Albany, and on the back of the south part of New-England through part of New-York, falls into the bay of the sea beyond the west end of Long-Island, and below the town of New-York.

HUDSONIA, in botany; a genus of the mono-

gynia order, belonging to the dodecandria class of plants. There is no corolla; the calyx is pentaphyllous and tubular: there are 15 stamina; the capsule is unilocular, trivalvular, and trispermous.

HUE and CRY, in law, the pursuit of a person who has committed felony on the high-way.—Of this custom, which is of British origin, the following deduction is given by Mr Whitaker. "When it was requisite for the Britons to call out their warriors into the field, they used a method that was particularly marked by its expeditiousness and decisiveness, and remains partially among us to this moment. They raised a cry, which was immediately caught up by others, and in an instant transmitted from mouth to mouth through all the region. And, as the notice passed along, the warriors snatched their arms, and hurried away to the rendezvous. We have a remarkable description of the fact in Cæsar, and there see the alarm propagated in 16 or 17 hours through 160 miles in a line. And the same practice has been retained by the Highlanders to our own time. When the lord of a clan received intelligence of an enemy's approach, he immediately killed a goat with his own sword, dipped the end of a half-burnt stick in the blood, and then gave it and the notice of the rendezvous to be carried to the next hamlet. The former symbolically threatened fire and sword to all his followers that did not instantly repair to the latter. The notice was dispatched from hamlet to hamlet with the utmost expedition. And in three or four hours the whole clan was in arms, and assembled at the place appointed. This was within these few years the ordinary mode by which the chieftains assembled their followers for war. The first person that received the notice, set out with it at full speed, delivered it to the next that he met, who instantly set out on the same speed, and handed it to a third. And, in the late rebellion of 1745, it was sent by an unknown hand through the region of Breadalbane; and, flying as expeditiously as the Gallick signal in Cæsar, traversed a tract of 32 miles in three hours. This quick method of giving a diffusive alarm is even preserved among ourselves to the present day; but is applied, as it seems from Cæsar's account above to have been equally applied among the Celtæ, to the better purposes of civil polity. The *hutesum* and *clameur* of our laws, and the *hue and cry* of our own times, is a well-known and powerful process for spreading the notice and continuing the pursuit of any fugitive felons. The cry, like the clamour of the Gauls or the summons of the Highlanders, is taken from town to town and from county to county; and a chain of communication is speedily carried from one end of the kingdom to the other."

HUER, a name given to certain fountains in ICELAND, of a most extraordinary nature; forming at times *jets d'eaux* of scalding water ninety-four feet high and thirty in diameter, creating the most magnificent gerbes that can be imagined, especially when backed by the setting sun. They arise out of cylindrical tubes of unknown depths: near the surface they expand into apertures of a funnel shape, and the mouths spread into large extent of stalactitical matter, formed of successive scaly concentric undulations. The playing of these stupendous spouts is foretold by noises roaring like the cataract of Niagara. The cylinder

Hue,
Huer.

Huesca
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Huet.

Plate
CCXXXVI.

der begins to fill: it rises gradually to the surface, and gradually encreases its height, smoking amazingly, and flinging up great stones. After attaining its greatest height it gradually sinks till it totally disappears. Boiling *jets d'eaux* and boiling springs are frequent in most parts of the island. In many parts they are applied to the culinary uses of the natives. The most capital is that which is called *Geyser* or *Geyser*, in a plain rising into small hills, and in the midst of an amphitheatre, bounded by the most magnificent and various-shaped icy mountains; among which the three-headed Hecla soars pre-eminent. See ICELAND, N^o 4.—These huers are not confined to the land; they rise in the very sea, and form scalding fountains amidst the waves. Their distance from the land is unknown; but the new volcanic isle, twelve miles off the point of Reickenes, emitting fire and smoke, proves that the subterraneous fires and waters extend to that space; for those awful effects arise from the united fury of these two elements.

HUESCA, an ancient and considerable town of Spain, in the kingdom of Arragon, with a bishop's see and an university. It is seated on the Issuela, in a soil producing excellent wine, in W. Long. 0. 13. N. Lat. 40. 2.

HUESCAR, or GUESCAR, a town of Spain, in the kingdom of Granada, seated on a plain in W. Long. 1. 45. N. Lat. 37. 32.

HUESNE, or HUENA, a small island in the Baltic Sea, in the Sound, where was the famous observatory of Tycho Brahe. E. Long. 13. 5. N. Lat. 55. 54.

HUET (Peter Daniel), a very learned French writer, born at Caen in Normandy, on the 8th of February 1630. He discovered, from his infancy, a great inclination to the study of polite literature and the sciences, and at first applied himself to the law; but Des Cartes's principles, and Bochart's sacred geography, made him change his studies for those of philosophy, mathematics, the languages, and antiquities. His admiration for Bochart made him desirous of knowing him. He contracted a very strict friendship with him, and accompanied that learned man to Sweden. Here Christina would have engaged him in her service; but he, sensible of her inconstant temper, returned to France. All he brought with him was a copy of a MS. of Origen, which he transcribed at Stockholm. He refused several offers from Christina after she abdicated and went to Rome, and from Gustavus her successor. In 1670, Mr Bosluet being appointed by the king preceptor to the dauphin, his majesty chose Mr Huet for his colleague, with the title of *sub preceptor to the prince*. It was he that formed the plan of the commentaries in *usum Delphini*, and directed the execution. His sentiments of piety determined him to enter into holy orders, which he did at the age of 46. Soon after this, he was presented by the king to the abbey of Aunay; and in 1685 was nominated to the bishopric of Soissons, which he exchanged for the see of Avranches. After governing that diocese ten years, he resigned, and was made abbot of Fontenay near Caen. His love to his native place determined him to fix there. But lawsuits coming upon him, he retired to Paris, and lodged among the Jesuits in the *Maison Professe*, whom he

had made heirs to his library. A severe distemper weakened his body extremely, but not the vivacity of his genius: he wrote his own life in a very elegant style; and died in 1721, aged 91. He was a man of very agreeable conversation; and of great probity, as well as immense erudition.—The following are the titles of his principal works. 1. *De claris interpretibus, et de optimo genere interpretandi*. 2. An edition of Origen's commentaries on the holy Scriptures, in Greek and Latin. 3. A treatise on the origin of the Romans. 4. *Demonstratio evangelica*, folio. 5. *Quæstiones Alnetanæ de concordia rationis et fidei*. 6. Of the situation of the terrestrial paradise, in French. 7. A history of the commerce and navigation of the ancients, which has been translated into English. 8. *Commentarius de rebus ad eum pertinentibus*. 9. *Huetiana*. 10. Latin and Greek verses, &c.

HUGHES (John), an ingenious and polite writer, was born in 1677. In the earliest parts of his youth, he cultivated the sister-arts, poetry, drawing, and music, in each of which he by turns made a considerable progress; but followed those and his other studies only as agreeable amusements, under frequent confinement on account of his ill state of health. The lord Chancellor Cowper made him secretary for the commissions of the peace without his knowledge, and distinguished him with singular marks of his esteem. He continued in the same employment under the earl of Macclesfield, and held it to the day of his death; which happened in 1719, the very night in which his tragedy, intitled *The siege of Damascus*, was first acted. He was then 42. He translated Fontenelle's dialogues of the dead, Vertot's revolutions of Portugal, and the letters of Abelard and Eloisa. He gave a very accurate edition of Spencer's works, with his life, a glossary, and remarks; and wrote several papers in the *Tatler*, *Spectator*, and *Guardian*. Mr Duncombe, who married his sister, collected his poems and essays in 2 vols 12mo, in 1735.

HUGHLY, a town of Asia, in the kingdom of Bengal, seated on the most westerly branch of the river Ganges. It is of large extent, reaching about two miles along the river-side, and drives a great trade in all the commodities of that country; affording rich cargoes for 50 or 60 ships annually, besides what is brought on carriages to the neighbouring towns. Saltpetre is brought hither from Patnia in vessels above 50 yards long and five broad. The inhabitants are chiefly Indians; but there are also Portuguese, English, and other Europeans. E. Long. 87. 55. N. Lat. 22. 0.

HUGO CAPET, chief of the third race of the kings of France, being count of Paris and Orleans: he was raised to the throne for his military valour and public virtues in 987. See FRANCE, n^o 38.

HUGONIA, in botany: A genus of the decandria order, belonging to the monadelphia class of plants; and in the natural method ranking with those of which the order is doubtful. The corolla is pentapetalous; the fruit is a plum with a striated kernel.

HUGUENOTS, an appellation given by way of contempt to the reformed or Protestant Calvinists of France.

The name had its first rise in 1560; but authors are

Hughes
||
Huguenots.

Huguenots, not agreed as to the origin and occasion thereof: but one of the two following seems to be the least forced derivation.

One of the gates of the city of Tours is called the gate Fourgon, by corruption from *feu Hugon*, i. e. the late Hugon. This Hugon was once count of Tours, according to Eginhardus, in his life of Charles the Great, and to some other historians. He was it seems a very wicked man, who by his fierce and cruel temper made himself dreadful; so that after his death he was supposed to walk about in the night-time, beating all those he met with: this tradition the judicious Thuanus has not scrupled to mention in his history. Davila and other historians pretend, that the nickname of *Huguenots* was first given to the French Protestants, because they used to meet in the night-time in subterraneous vaults near this gate of Hugon; and what seems to countenance this opinion is, that they were first called by the name of *Huguenots* at this city of Tours.

Others assign a more illustrious origin to that name; and say that the leaguers gave it to the reformed, because they were for keeping the crown upon the head of the present line descended from Hugh Capet; whereas they were for giving it to the house of Guise, as descended from Charles the Great.

Others again derive it from a French and faulty pronunciation of the German word *eidgnossen*, signifying confederates, and originally applied to that valiant part of the city of Geneva, which entered into an alliance with the Swiss cantons, in order to maintain their liberties against the tyrannical attempts of Charles III. duke of Savoy.

These confederates were called *Eignots*, whence *Huguenots*.

The persecution which they underwent has scarce its parallel in the history of religion: though they obtained a peace from Henry III. in 1576, it was only of short continuance; and their sufferings, mitigated by the famous edict of Nantes, granted to them in 1598 by Henry IV. were again renewed, after the revocation of this edict, by Louis XIV. in 1685.

HULK, an old ship of war, fitted with an apparatus, to fix or take out the masts of his majesty's ships, as occasion requires.

The mast of this vessel is extremely high, and withal properly strengthened by *sbrouds* and *slays*, in order to secure what are called the *sheers*, which serve, as the arm of a crane, to hoist out or in the masts of any ship lying alongside. The sheers are composed of several long masts, whose heels rest upon the side of the hulk, and having their heads declining outward from the perpendicular, so as to hang over the vessel whose masts are to be fixed or displaced. The tackles, which extend from the head of the mast to the sheer-heads, are intended to pull in the latter towards the mast-head, particularly when they are charged with the weight of a mast after it is raised out of any ship, which is performed by strong tackles depending from the sheer-heads. The effort of these tackles is produced by two capsterns, fixed on the deck for this purpose.

HULK, is also a name bestowed on any old vessel laid by as unfit for further service. It is probably de-

rived from the *ολλυαδης*, or vessels of burthen, of the ancient Grecians.

HULL, in the sea-language, is the main body of a ship, without either masts, yards, sails, or rigging. Thus to *strike a Hull* in a storm, is to take in her sails, and to lash the helm on the lee-side of the ship; and to *bull*, or *lie a-bull*, is said of a ship whose sails are thus taken in, and helm lashed a-lee.

HULL, a river in Yorkshire, which falls into the Humber at *Kingston upon Hull*. See **KINGSTON**.

HUMAN, in general, is an appellation given to whatever relates to mankind: thus we say, the human soul, human body, human laws, &c.

HUMANITY, the peculiar nature of man, whereby he is distinguished from all other beings.

HUMANITIES, in the plural, signify grammar, rhetoric, and poetry, known by the name of *literæ humaniores*; for teaching of which, there are professors in the universities of Scotland, called *humanists*.

HUMBER, a river formed by the Trent, Ouse, Derwent, and several other streams. By the late inland navigation, it has a communication with the rivers Mersey, Dee, Ribble, Severn, Thames, Avon, &c. which navigation, including its windings, extends above 500 miles, in the counties of Lincoln, Nottingham, York, Lancaster, Westmoreland, Chester, Stafford, Warwick, Leicester, Oxford, Worcester. It divides Yorkshire from Lincolnshire, and falls into the German ocean near Holderness.

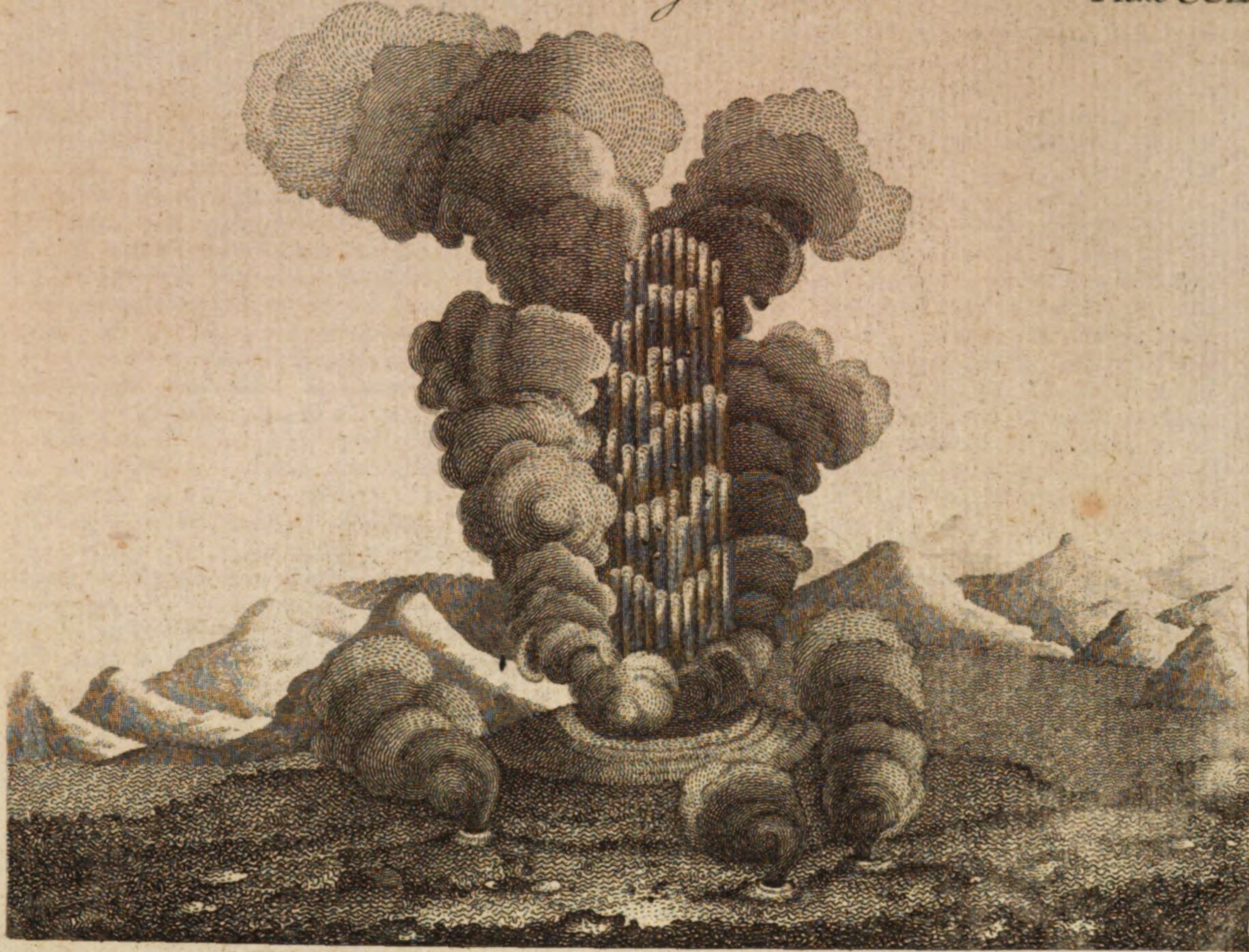
HUME (David, Esq;) a late celebrated philosopher and historian, was born in the south part of Scotland on the 26th of April O. S. in the year 1711. Being the younger son of a country gentleman of good family, but no great fortune, his patrimony was of consequence insufficient to support him. For this reason he was destined for the bar, and passed through his academical courses in the university of Edinburgh; but being more inclined to studies of a different nature, he never put on the gown, nor even took the introductory steps necessary for that purpose. The writings of Locke and Berkeley had directed the attention of the generality of learned men towards metaphysics; and Mr Hume having early applied himself to studies of this kind, published in 1739 the two first volumes of his *Treatise of human nature*, and the third the following year. He had the mortification, however, to find his book generally decried; and to perceive, that the taste for systematic writing was now on the decline. He therefore divided this treatise into separate Essays and Dissertations, which he afterwards published at different times with alterations and improvements.

In 1742, Mr Hume published two small volumes, consisting of Essays moral, political, and literary. These were better received than his former publication; but contributed little to his reputation as an author, and still less to his profit; and his small patrimony being now almost spent, he accepted an invitation from the marquis of Annandale to come and live with him in England. With this nobleman he staid a twelve-month; during which time his small fortune was considerably increased. He then received an invitation from General St Clair, to attend him as a secretary to his expedition, which was at first meant against Cana-

Hull
Hume.

Huer or Boiling Fountain.

Plate CCXXXVI.



Hippopotamus.



A. Bell Pin. W. A. Sculptor fecit.

Hume.

da, but afterwards ended in an excursion against the coast of France. In 1747, he received an invitation from the general to attend him in the same station in his military embassy to the courts of Vienna and Turin. He then wore the uniform of an officer; and was introduced at these courts as aid de-camp to the general, along with Sir Harry Erskine and captain Grant, afterwards general Grant. In 1749, he returned to Scotland, and lived two years with his brother at his country-house; where he composed the second part of his essays, called *Political Discourses*. And now the general approbation of his performances was indicated by a more extensive sale than formerly, and likewise by the numerous answers published by different persons in order to counteract their supposed pernicious tendency. In 1752, were published at Edinburgh his *Political Discourses*, the only work of his which was well received on its first appearance; and the same year, at London, his *Inquiry concerning the Principles of Morals*, which in his own opinion was incomparably the best of all his performances. This year also he was appointed librarian to the faculty of Advocates at Edinburgh; the principal advantage resulting from which employment was, that he had by that means the command of a large library. He then formed the plan of writing the *History of England*: but deeming the whole to be too extensive, he confined his history to that of Britain under the house of Stuart. The book was almost universally decried on its first appearance, and soon after seemed to sink in oblivion. Dr Herring primate of England, and Dr Stone primate of Ireland, were the only literati of the author's acquaintance who approved of the work, and sent him messages not to be discouraged.

Notwithstanding the approbation of these eminent men, however, Mr Hume's spirits were so much sunk by his bad success, that he had some thoughts of retiring to France, changing his name, and bidding adieu to his own country for ever; but his design was rendered impracticable by the breaking out of the war of 1755 between France and Britain. He then published his *Natural History of Religion*; to which an answer was published, soon after its appearance, in the name of Dr Hurd bishop of Litchfield and Coventry; of which, however, he hath since disclaimed being the sole author. In 1756, the second volume of the *History of the Stuarts* was published, two years after the appearance of the first. This was better received, and helped to retrieve the character of the former volume. Three years after, his *History of the House of Tudor* made its appearance; which was almost as ill received as the *History of the Stuarts* had been, the reign of Elizabeth being particularly obnoxious. The author, however, had now learned to despise popular clamours; and continued to finish at his leisure the more early part of the English history, which was published in 1761, and was received with tolerable success.

Mr Hume being now turned of fifty, and having obtained by the sale of his books a competent and independent fortune, retired into his native country of Scotland, determined never more to set his foot out of it. From this resolution, however, he was diverted by the earl of Hertford; whom he attended as secretary on his embassy to Paris in 1763. In 1765, the

Hume.

earl being appointed lord lieutenant of Ireland, Mr Hume was intrusted with the sole management of the business of the state till the arrival of the duke of Richmond towards the latter end of the year. In 1767, he returned to Edinburgh, with a much larger income, procured to him by the earl of Hertford, than he formerly had; and now formed the same design he had formerly entertained, namely, of burying himself in his philosophical retreat. In this, however, he was again disappointed, by receiving an invitation from general Conway to be under secretary; and this invitation he was prevented from declining, both by the character of the person, and his connections with lord Hertford. In 1769 he returned to Edinburgh, possessed of L. 1000 a-year, healthy, and though somewhat stricken in years, yet having a prospect of long enjoying his ease, and of seeing the increase of his reputation. Of his last illness and character, he himself gives the following account. "In spring 1775, I was struck with a disorder in my bowels; which at first gave me no alarm, but has since, as I apprehend it, become mortal and incurable. I now reckon upon a speedy dissolution. I have suffered very little pain from my disorder; and what is more strange, have, notwithstanding the great decline of my person, never suffered a moment's abatement of my spirits; inso-much, that were I to name the period of my life which I should most choose to pass over again, I might be tempted to point to this latter period. I possess the same ardour as ever in study, and the same gaiety in company. I consider, besides, that a man of sixty-five, by dying, cuts off only a few years of infirmities; and though I see many symptoms of my literary reputation breaking out at last with additional lustre, I knew that I could have but few years to enjoy it. It is difficult to be more detached from life than I am at present.

"To conclude, historically, with my own character; I am, or rather was (for that is the style I must now use in speaking of myself, which emboldens me the more to speak my sentiments); I was, I say, a man of mild dispositions, of command of temper, of an open, social, and cheerful humour, capable of attachment, but little susceptible of enmity, and of great moderation in all my passions. Even my love of literary fame, my ruling passion, never soured my temper, notwithstanding my frequent disappointments. My company was not unacceptable to the young and careless, as well as to the studious and literary; and as I took a particular pleasure in the company of modest women, I had no reason to be displeased with the reception I met with from them. In a word, though most men any wise eminent have found reason to complain of calumny, I never was touched, or even attacked, by her baleful tooth: and though I wantonly exposed myself to the rage of both civil and religious factions, they seemed to be disarmed in my behalf of their wonted fury. My friends never had occasion to vindicate any one circumstance of my character and conduct: not but that the zealots, we may well suppose, would have been glad to invent and propagate any story to my disadvantage, but they could never find any which they thought would wear the face of probability. I cannot say there is no vanity in making this funeral oration of myself, but I hope it is not a misplaced

Humectation
||
Humour.

misplaced one; and this is a matter of fact which is easily cleared and ascertained."

His fears concerning the incurableness of his disorder proved too true. He died on the 25th of August 1776; and was interred in the Calton burying-ground, Edinburgh, where a monument is erected to his memory.

HUMECTATION, formed of humour, moisture, moistening, in pharmacy, the preparing of a medicine, by steeping it a while in water, in order to soften and moisten it when too dry; or to cleanse it, or prevent its subtil parts from being dissipated in grinding, or the like.

HUMECTATION is also used for the application of moistening remedies.

In this sense we say, embrocations, emplasters, unctions, humectations, fomentations, &c.

HUMERUS, or *Os HUMERI*, in anatomy, the uppermost bone of the arm, popularly called the *shoulder-bone*; extending from the scapula, or shoulder-blade, to the upper end of the cubitus, or elbow. See **ANATOMY**, n° 47.

HUMIDITY, that quality in bodies whereby they are capable of wetting other bodies. This differs very much from fluidity; and seems to be merely a relative thing, depending on the congruity of the component particles of the liquor to the pores of such particular bodies as it is capable of adhering to, penetrating a little into, or wetting. Thus, for instance, quicksilver is not a moist thing with regard to our hands or clothes; but may be called so in reference to gold, tin, or lead, to whose surfaces it will perfectly adhere, and render them soft and moist.

HUMILIATI, a congregation of religious in the church of Rome, established by some Milanese gentlemen on their release from prison, where they had been confined under the emperor Conrad, or, as others say, under Frederick I. in the year 1162. This order, which acquired great wealth, and had no less than 90 monasteries, was abolished by pope Pius V. in 1570, and their houses given to the Dominicans and Cordeliers for their luxury and cruelty.

HUMILIATION, the act of humbling, i. e. of abating a person's pride, and bringing him lower in his opinion.

In this sense, humiliation stands distinguished from mortification: humiliation brings down the mind; mortification subdues the flesh.

HUMILITY, in ethics, is a virtue consisting in the moderate value which a person puts upon himself, and every thing relating to him. Or, more particularly, it consists in not attributing to ourselves any excellence or good which we have not; in not over-rating any thing which we have or do; in not taking an immoderate delight in one's self; in not assuming more of the praise of a quality or action than belongs to us; and in a lowly sense and acknowledgment of our imperfections, errors, and sins. This virtue expresses itself in the modesty of our appearance, of our pursuits, and of our behaviour towards other men. It is distinguished from affectation, bashfulness, and meanness.

HUMMING-BIRD. See **TROCHILUS**.

HUMOUR, from the Latin *humor*, in its original signification, stands for moisture in general; from whence it has been restrained to signify the moisture of

animal bodies, or those fluids which circulate through them. Humour, Humphrey.

It is distinguished from moisture in general in this, that humours properly express the fluids of the body; when, in a vitiated state, it would not be improper to say, that the fluids of such a person's body were full of humours.

The only fluids of the body, which, in their natural and healthful state, are called *humours*, are those in the eye; we talk of the aqueous humour, the crystalline humour, without meaning any thing that is morbid or diseased: yet, when we say in general, that such a person has got a humour in his eye, we understand it in the usual sense of a vitiated fluid.

As the temper of the mind is supposed to depend upon the state of the fluids in the body, **HUMOUR** has come to be synonymous with temper and disposition. A person's humour, however, is different from his *disposition*, in this, that humour seems to be the disease of a disposition: it would be proper to say that persons of a serious temper or disposition of mind, were subject to melancholy humours; that those of a delicate and tender disposition, were subject to peevish humours.

Humour may be agreeable or disagreeable: but it is still humour; something that is whimsical, capricious, and not to be depended upon. An ill-natured man may have fits of good-humour, which seem to come upon him accidentally, without any regard to the common moral causes of happiness or misery.

A fit of cheerfulness constitutes the whole of good-humour; and a man who has many such fits, is a good-humoured-man: yet he may not be good-natured; which is a character that supposes something more constant, equable, and uniform, than what was requisite to constitute good humour.

HUMOUR is often made use of to express the quality of the imagination, which bears a considerable resemblance to wit.

Wit expresses something that is more designed, concerted, regular, and artificial; humour, something that is more wild, loose, extravagant, and fantastical; something which comes upon a man by fits, which he can neither command nor restrain, and which is not perfectly consistent with true politeness. Humour, it has been said, is often more diverting than wit; yet a man of wit is as much above a man of humour, as a gentleman is above a buffoon; a buffoon, however, will often divert more than a gentleman. The duke of Buckingham, however, makes humour to be all in all: wit, according to him, should never be used, but to add an agreeableness to some proper and just sentiment, which, without some such turn, might pass without its effect. See **WIT**.

HUMPHREY (Dr Lawrence), a very learned English divine in the 16th century, who, during the persecution under queen Mary, retired with other Protestant refugees to Zurich. He returned on the accession of queen Elizabeth; and was made president of Magdalene college, Oxford, dean of Gloucester, and then dean of Winchester. He was a great and general scholar, an able linguist, and a deep divine; and published, 1. *De religionis conservatione et reformatione, deque primatu regum.* 2. *De ratione interpretandi auctores.* 3. *Optimates; sive de nobilitate, ejusque origine.* 4. Sermons, and other works. He died in 1590.

HUMULUS,

Humulus,
Hundred.

HUMULUS, the **HOP**: A genus of the pentandria order, belonging to the diœcia class of plants; and in the natural method ranking under the 53d order, *Scabrida*. The male calyx is pentaphyllous; there is no corolla; the female calyx is monophyllous, patent obliquely, and entire, there is no corolla; but two styles; and one seed within the calyx, the latter consisting of one large leaf. There is only one species, viz. the lupulus, which is sometimes found wild in hedges near houses and gardens, but probably is not indigenous. The stalk is weak and climbing; it creeps up the support in a spiral, ascending always from the right hand to the left. The stalk and the leaves are rough to the touch; the upper leaves are heart-shaped, the lower ones divided into three lobes serrated on the edges, and grow in pairs on long footstalks. The male flowers grow on a distinct plant on branched peduncles; the females on peduncles in pairs of the form of a *strobilus* or cone, composed of large imbricated calyces containing each one or two seeds. For the culture and uses of hops, see the articles **HOP** and **HUSBANDRY**.

HUNDRED, **HUNDREDUM**, or *Centuria*, a part or division of a county; which was anciently so called from its containing an hundred families, or from its furnishing an hundred able men for the king's wars. After king Alfred's dividing this kingdom into counties, and giving the government of each county to a sheriff, these counties were divided into hundreds, of which the constable was the chief officer. The grants of hundreds were at first made by the king to particular persons: but they are not now held by grant or prescription, their jurisdiction being devolved to the county-court; a few of them only excepted, that have been by privilege annexed to the crown, or granted to some great subjects, and still remain in the nature of a franchise.

HUNDRED-Court. This is only a larger *Court-Baron*, being held for all the inhabitants of a particular hundred instead of a manor. The free suitors are here also the judges, and the steward the register, as in the case of a court-baron. It is likewise no court of record; resembling the former in all points, except that in point of territory it is of a greater jurisdiction. This is said by Sir Edward Coke to have been derived out of the county-court for the ease of the people, that they might have justice done them at their own doors, without any charge or loss of time: but its institution was probably co-eval with that of hundreds themselves, which were formerly observed to have been introduced though not invented by ALFRED, being derived from the policy of the ancient Germans. The *centeni*, we may remember, were the principal inhabitants of a district composed of different villages, originally in number an *hundred*, but afterwards only called by that name; and who probably gave the same denomination to the district out of which they were chosen. Cæsar speaks positively of the judicial power exercised in *their* hundred-courts and courts-baron. "*Principes regionum, atque pagorum,*" (which we may fairly construe, the lords of hundreds and manors) "*inter suos jus dicunt, controversiasque minuunt.*" And Tacitus, who had examined their constitution still more attentively, informs us not only of the authority of the lords, but that of the *centeni*, the hundredors, or jury; who were taken out of the common freehold-

ers, and had themselves a share in the determination. "*Eliguntur in conciliis et principes, qui jura per pagos vicisque reddunt: centeni singulis, ex plebe comites, consilium simul et auctoritas, adfunt.*" This hundred-court was denominated *hareda* in the Gothic constitution. But this court, as causes are equally liable to removal from hence as from the common court-baron, and by the same writs, and may also be reviewed by writ of false judgment, is therefore fallen into equal disuse with regard to the trial of actions.

HUNGARY, a kingdom of Europe, the greatest part of which was anciently called *Pannonia*. It had the name of *Hungary* from the Hunns, a Scythian or Tartar nation, who subdued it in the ninth century. It lies between the 18th and 22d degrees of east long. and betwixt the 45th and 49th degrees of north lat. being bounded to the north by the Carpathian mountains, which separate it from Poland; to the south by Servia, and the river Drave, which separates it from Sclavonia; to the west by Moravia, Austria, and Stiria; and to the east by Walachia and Transylvania. It is about 240 miles in length, and 235 in breadth; and is divided into the Upper and Lower Hungary, the former being that part which lies towards the east, and the latter that which lies towards the west.

The northern parts of the kingdom are mountainous and barren, but healthy; the southern, on the contrary, are level, and exceeding fruitful, but not very healthy. The country along the Danube, from Presburg to Belgrade, for upwards of 200 miles, is one continued plain, and no soil can be more fertile; but the air, by reason of the many swamps and morasses, is not so wholesome as on the higher and drier grounds. Here are mines of gold, silver, copper, iron, lead, quicksilver, cinnabar, antimony, yellow orpiment, sulphur, vitriol, marcasite, salt native and factitious, saltpetre, magnets, asbestos or stone-flax, marble of several colours, alabaster, with diamonds, and all sorts of precious stones. Corn is in such plenty, that it is sold for one sixth of its price in England. Their grapes are large and luscious; and their wines preferred to any in Europe. They have vast numbers of cattle and horses, the latter mostly mouse-coloured, with buffaloes, deer, wild-fowl, game, and fish, and many species of wild beasts, particularly chamois, goats, bears, and lynxes. Of vegetables, besides vines, and the common sorts, here are tobacco, saffron, buck-wheat, millet, melons, and chesnuts. Here also are excellent warm baths, and springs of various kinds and qualities. The chief mountains of Hungary are the Crapack or Carpathian, which is the general name for all those that separate this kingdom from Poland, Moravia, Silesia, and some part of Austria. The sides of most of them are covered with wood, and their tops with snow. The chief rivers are the Danube, the Drave, the Save, the Wag or Waag, the Gran, the Temes, the Raab, and Theiss, all well stocked with fish. There are several lakes among the Carpathian mountains, and some also in the lowlands.

The inhabitants are a mixture of the descendants of the ancient Huns, Sclavonians, Camani, Germans, Walachians, Greeks, Jews, Turks, and a wandering people called *Zigduns*, said to be of uncertain origin, but

Hungary.

Hungary. but probably the same as those we called *gyppies*. The Hungarians are said to be of a sanguine choleric temper, and somewhat fierce, cruel, proud, and revengeful. They have been always reputed good soldiers, being much more inclined to arms, martial exercises, and hunting, than to arts, learning, trade, or agriculture. The nobility affect great pomp and magnificence, and are much addicted to feasting and carousing. The men in general are strong and well proportioned. They shave their beards, but leave whiskers on the upper-lip; wearing fur caps on their heads, a close-bodied coat girt with a sash, with a short cloak or mantle over all, so contrived as to be buckled under the arm, and leave the right hand at liberty. Their horse are called *buffars*, and their foot *heydukes*. The former wear a broad-sword, or scymeter, and carry a hatchet or battle-ax. Their horses are fleet, but not near so large as the German horses, and therefore they stand up on their short stirrups when they strike. The heydukes usually wear feathers in their caps, according to the number of the enemies they pretend to have killed. Both horse and foot are an excellent militia, very good at a pursuit, or ravaging and plundering a country, but not equal to regular troops in a pitched battle. The women, when they go abroad, wear short cloaks and a veil.

There are four languages spoken in this country, viz. the Hungarian, which, like the people, is of Scythian origin, and has little or no affinity with any European tongue; the German, Slavonian, Wallachian, and Latin. The last is spoken, not only by the better sort, but also by the common people, though very corruptly. The people called *Zigduns* have also a particular jargon.—Christianity was planted in Hungary in the ninth and tenth centuries. In the sixteenth the reformation made a great progress in it; but at present, though the Roman catholics hardly make a fourth part of the inhabitants, their religion is predominant, the Protestants enjoying only a bare toleration. Besides several sects of Protestants, here are also great numbers of the Greek church and Jews; the last pay double taxes of all kinds. Besides Jesuits colleges and other convents, there are several universities for the Roman-catholics. The Lutherans also and Calvinists have their gymnasia and schools, but under divers restrictions.

As to the traffic of this country, it is almost wholly in the hands of the Greeks and Jews. The exports consist chiefly of wine, horses, cattle, metals, minerals, saffron, wool, and leather. Hungary, in particular, furnishes Austria, and other countries west of it, with vast droves of cattle, as well as variety of excellent wines, of which those of Tokay are reckoned the best. The principal manufactures are those of copper, brass, iron, and other hard wares. Great quantities of brass and iron are exported, wrought and unwrought.

Hungary at first, like most other countries, was divided into many little principalities and states, which at length were united under one head, who had the title of *duke*. The last of these dukes was Geyza; who, becoming a profelyte to Christianity, was baptized; after which he resigned the government to his son Stephen, who took the title of *king*, anno 1000. But
N^o 158.

as the throne was filled by election, though generally out of the same family, the disposal of the crown was disputed between the Turkish and German emperors for near 200 years: but after the year 1527, when Ferdinand archduke of Austria was advanced to the throne, the Austrians found means to influence the elections in such a manner, as to keep the crown in their family till 1687, when it was settled hereditarily on their heirs male; and now, in consequence of an act made by the diet at Presburg in 1723, in case of the failure of heirs-male, it is to descend to females. The states of the kingdom consist of the prelates, the barons, the gentry, and the royal towns. To the first class belong two archbishops, about a dozen bishops, near as many abbots and provosts, with the Pauline and Præmonstratensian Jesuits. To the second, the stadtholder or palatine, who represents the king; the court-judge; the ban or viceroy of Dalmatia, Croatia, and Slavonia; the stadtholder of Transylvania; the great treasurer, the great cup-bearer, the steward of the household, the master of the horse, the lord chamberlain, the captain of the yeomen of the guards, and the grand-marshal of the courts who are styled the great barons, together with the inferior bans or counts and barons. To the third class belong the gentry, some of whom have noble manors, and others only the privileges of nobles. To the fourth class belong the royal free cities, which are not subject to the counts, but hold immediately of the king. The gentry also, who hold of the archbishops and bishops, have the same privileges as the Hungarian nobility. The common people are vassals to the lords, on whose lands they live, whether these lands belong to the crown, the clergy, nobility, or gentry.

The ordinary revenue of this kingdom is said to exceed a million Sterling, arising from the mines, duties on cattle, royal demesnes, salt-works, contributions, customs, &c. The fortifications and garrisons constantly maintained on the frontiers against the Turks, are a great expence to the government. Hungary can easily bring into the field 100,000 men, regulars and militia; for there are 50,000 in actual pay, and the provinces furnish the other 50,000 when they are wanted.

HUNGARY-Water, a distilled water prepared from the tops or flowers of rosemary; so denominated from a queen of Hungary, for whose use it was first made. See PHARMACY.

HUNGER, an uneasy sensation occasioned by long abstinence from food when the body is in a healthy state.—See ABSTINENCE; FASTING; and ANATOMY, n^o 103.

The following useful observations upon hunger or famine are extracted from a paper by Dr Percival in the second volume of the Manchester Transactions.

In famine, life may be protracted (the Doctor observes) with less pain and misery, by a moderate allowance of water. For the acrimony and putrefaction of the humours are obviated by such dilution, the small vessels are kept permeable, and the lungs are furnished with that moisture which is essential to the performance of their functions. Fontanus, a writer of respectable authority in the estimation of Morgagni, relates the history of a woman who obstinately refused to take any sustenance, except
I
twice,

Hunger. twice, during the space of 50 days, at the end of which period she died. But he adds, that she used water by way of drink, though in small quantity. Redi, who made many experiments (cruel and unjustifiable in my opinion), to ascertain the effects of fasting on fowls, observed, that none were able to support life beyond the ninth day to whom drink was denied; whereas one indulged with water lived more than 20 days.

Hippocrates has observed, that children are more affected by abstinence than young persons; these, more than the middle aged; and the middle aged, more than old men. The power to endure famine, however, must depend no less upon the state of health and strength than on the age of the sufferer. There are also particular constitutions which do not suffer much pain from the calls of hunger. Dr Percival was informed by a young physician from Geneva, that when he was a student at Montpellier, he fasted three nights and four days, with no other refreshment than a pint of water daily. His hunger was keen, but never painful, during the first and second days of his abstinence; and the two following days, he perceived only a faintness when he attempted either bodily or mental exertion: A sense of coldness was diffused over his whole frame, but more particularly affected the extremities. His mind was in a very unusual state of pusillanimity; and he experienced a great tendency to tears whenever he recollected the circumstance which had been the occasion of his fasting. During the whole period, the alvine excretions were suppressed, but not those by the kidneys: and at the close of it, his skin became tinged with a shade of yellow. The first food he took was veal broth; which had something of an intoxicating effect, producing a glow of warmth, and raising his spirits, so as to render him ashamed of his despondency. Perhaps in the case of Sextius Baculus, as recorded in the commentaries of Cæsar*, the extraordinary courage and prowess which he suddenly exerted, might be aided by the exhilarating effect of sustenance, which, under such circumstances, it is probable he would no longer decline. The fact, however, evinces, that neither his sickness nor the sensations of hunger had been so violent as much to impair his strength of body or vigour of mind. Pomponius Atticus, the celebrated friend of Cicero, who put a voluntary end to his life in the 77th year of his age by refusing all food, appears to have experienced ease from his disorder, rather than any acute sufferings by famine. "Sic cum biduo cibo se abstinuisset, subito febris decessit, leviorque morbus esse cepit: tamen propositum nihilo secius perigit. Itaque die quinto, postquam id consilium inierat, decessit." (*Corn. Nepos in Vit. Pomp. Attic.*) From the former circumstance it has been conjectured, that he did not wholly deny himself the use of water, or of some other diluent. But though a few examples of this kind may be adduced, we have the evidence of numerous melancholy facts to show, that the pressure of want is agonizing to the human frame. "I have talked, (says an ingenious writer †), with the captain of a ship, who was one of six that endured it in its extremity, and who was the only person that had not lost his senses when they received accidental relief. He assured me his pains at first were so great, as to be often tempted to eat a part of one of the men who died, and which the rest of his crew actually for some time lived upon:

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He said, that during the continuance of this paroxysm, he found his pains insupportable, and was desirous at one time of anticipating that death which he thought inevitable: But his pains, he said, gradually decreased after the sixth day (for they had water in the ship, which kept them alive so long), and then he was in a state rather of languor than desire; nor did he much wish for food, except when he saw others eating; and that for a while revived his appetite, though with diminished importunity. The latter part of the time, when his health was almost destroyed, a thousand strange images rose upon his mind; and every one of his senses began to bring him wrong information. The most fragrant perfumes appeared to him to have a fetid smell; and every thing he looked at took a greenish hue, and sometimes a yellow. When he was presented with food by the ship's company that took him and his men up, four of whom died shortly after, he could not help looking upon it with loathing instead of desire; and it was not till after four days that his stomach was brought to its natural tone; when the violence of his appetite returned with a sort of canine eagerness."

To those who by their occupations are exposed to such dreadful calamities, it is of serious importance to be instructed in the means of alleviating them. The American Indians are said to use a composition of the juice of tobacco, and the shells of snails, cockles, and oysters calcined, whenever they undertake a long journey, and are likely to be destitute of provisions. It is probable the shells are not burnt into quicklime, but only so as to destroy their tenacity, and to render them fit for levigation. The mass is dried, and formed into pills, of a proper size to be held between the gum and lip, which, being gradually dissolved and swallowed, obtund the sensations both of hunger and of thirst. Tobacco, by its narcotic quality, seems well adapted to counteract the uneasy impressions which the gastric juice makes on the nerves of the stomach when it is empty; and the combination of testaceous powders with it may tend to correct the secretion that is supposed to be the chief agent in digestion, and which, if not acid, is always united with acidity. Certain at least it is, that their operation is both grateful and salutary; for we find the luxurious inhabitants of the East Indies mix them with the betel nut, to the chewing of which they are universally and immoderately addicted. Perhaps such absorbents may be usefully applied, both to divide the doses and to moderate the virulence of the tobacco. For, in the internal exhibition of this plant, much caution is required, as it produces sickness, vertigo, cold clammy sweats, and a train of other formidable symptoms, when taken in too large a quantity. During the time of war, the impressed sailors frequently bring on these maladies, that they may be admitted into the hospitals, and released from servitude. It would be an easy and safe experiment to ascertain the efficacy, and to adjust the ingredients, of the Indian composition mentioned. And there is reason to believe, that the trial would be in some degree successful; for it is known that smoking tobacco gives relief in those habitual pains of the stomach which appear to arise from the irritation of the gastric secretions. The like effect is sometimes produced by increasing the flow of saliva, and swallowing what is thus discharged. And Dr Percival has related

Hunger.

* Dr Goldsmith's Hist. of the Earth, vol. ii. 126.

Hunger.

the case of a gentleman, who used to masticate, many hours daily, a piece of lead, which being neither hard, friable, nor offensive to the palate, suited his purpose, as he thought, better than any other substance. He continued the custom many years, deriving great ease from it, and suffering no sensible injury from the poisonous quality of the metal. On mentioning this fact to a navy surgeon, the Doctor was told, that the sailors, when in hot climates, are wont to mitigate thirst by rolling a bullet in their mouths. A more innocent mean, the Doctor observes, might be devised; but the efficacy of this evinces, that the salivary glands are for a while capable of furnishing a substitute for drink. When a scarcity of water occurs at sea, Dr Franklin has advised, that the mariners should bathe themselves in tubs of salt-water: For, in pursuing the amusement of swimming, he observed, that, however thirsty he was before immersion, he never continued so afterwards; and that, though he soaked himself several hours in the day, and several days successively in salt-water, he perceived not, in consequence of it, the least taste of saltiness in his mouth. He also further suggests, that the same good effect might perhaps be derived from dipping the sailor's apparel in the sea; and expresses a confidence that no danger of catching cold would ensue.

To prevent the calamity of famine at sea, it has been proposed by Dr Lind, that the powder of salep should constitute part of the provisions of every ship's company. This powder and portable soup, dissolved in boiling water, form a rich thick jelly; and an ounce of each of these articles furnishes one day's subsistence to a healthy full grown man. Indeed, from Dr Percival's experiments it appears, that salep contains more nutritious matter, in proportion to its bulk, than any other vegetable production now used as food. It has the property also of concealing the nauseous taste of salt-water; and consequently may be of great advantage at sea, when the stock of fresh water is so far consumed, that the mariners are put upon short allowance. By the same mucilaginous quality, it covers the offensiveness, and even, in some measure, corrects the acrimony of salted and putrescent meats. But, as a preservative against hunger, salep would be most efficacious combined with an equal weight of beef suet. By swallowing little balls of this lubricating compound at proper intervals, the coats of the stomach would be defended from irritation: and as oils and mucilages are highly nutritive, of slow digestion, and indisposed to pass off by perspiration, they are peculiarly well adapted to support life in small quantities. This composition is superior in simplicity, and perhaps equal in efficacy, to the following one, so much extolled by Avicenna the celebrated Arabian physician; to whom we are indebted for the introduction of rhubarb, cassia, tamarinds, and fenna, into the materia medica. "Take sweet almonds and beef suet, of each one pound; of the oil of violets two ounces; and of the roots of marsh mallows one ounce: bray these ingredients together in a mortar, and form the mass into boluses, about the size of a common nut." Animal fat is singularly powerful in assuaging the most acute sensations of thirst, as appears from the narrative of the sufferings experienced by those who were confined in the black hole at Calcutta. A hundred and forty-six persons, exhausted by fatigue

and military duty, were there thrust together into a chamber of 18 cubic feet, having only two windows, strongly barred with iron, from which, in a close sultry night, and in such a climate as that of Bengal, little or no circulation of fresh air could be enjoyed. In a few minutes, these unhappy wretches fell into so profuse a perspiration, that an idea can hardly be formed of it; and this was succeeded by a raging thirst, which increased in proportion as the body was drained of its moisture. Water! Water! became the universal cry; and an old soldier on the outside, through pity, furnished them with a few skinfuls of it. But these scanty supplies, like sprinklings on the fire, served only to feed and increase the flame. From this experience of its effects, Mr Holwell, their chief, determined to drink no more; and kept his mouth moist by sucking the perspiration out of his shirt sleeves, and catching the drops as they fell from his head and face. "You cannot imagine (says he) how unhappy I was if any of them escaped me." He came into the prison without his coat, the season being too hot to bear it: and one of his miserable companions, observing the expedient he had hit upon of allaying his thirst, robbed him from time to time of a considerable part of his store. This plunderer, whom he found to be a young gentleman in the service of the East India Company, afterwards acknowledged, that he owed his life to the many comfortable draughts which he derived from him. Before Mr Holwell adopted this mode of relief, he had attempted, in an ungovernable fit of thirst, to drink his own urine: but it was so intensely bitter, that a second taste could not be endured; whereas, he assures us, no Bristol water could be more soft and pleasant than his perspiration. And this, we may presume, consisted chiefly of animal fat, melted by excessive heat, and exuding from the cellular membrane through the pores of the skin.

Persons who have been accustomed to animal food, are soon reduced when supplied only with the farinacea. Several years ago, to determine the comparative nutritive powers of different substances, an ingenious young physician, as Dr Percival informs us, made a variety of experiments on himself, to which he unfortunately fell a sacrifice. He lived a month upon bread and water; and under this regimen of diet he every day diminished much in his weight. But in 1784, a student of physic at Edinburgh confined himself for a longer space of time to a pint of milk and half a pound of white bread daily: And he assured our author, that he passed through the usual labours of study and exercise without feeling any decay of health or strength, and without any sensible loss of bulk. The cutaneous, urinary, and alvine excretions, were very scanty during the whole period; and the discharge of faeces occurred only once in a week. In this case the oily and coagulable parts of the milk probably furnished a larger proportion of aliment, and at the same time contributed to check the waste by perspiration and other discharges; for oleaginous substances are retained long in the body by their viscosity. Dr Russel, in his natural History of Aleppo, relates, that in those seasons when oil abounds, the inhabitants, by indulgence in it, are disposed to fever, and affected with infarctions of the lungs; maladies which indicate both retention and obstruction. Milk has been

suff.

Hunger. suspected by some of producing similar effects, though in a slighter degree; and the free use of it has been on this account forbidden to asthmatics.

Gum arabic might be a good substitute for salep in the composition already recommended; and as it will give such firmness to the mafs, as to require manducation, the saliva, by this means separated and carried into the stomach, would further contribute to assuage the sensations both of hunger and of thirst. See *Gum-Arabic*. This gum, combined with sugar and the whites of eggs, has been lately extolled in France, under the name of *patigumo*, as a remedy for catarrhal defluxions. Dr Percival has seen cakes made of these ingredients, and thinks they might very well be applied to the purpose of obviating hunger. They are not perishable in the hottest climates, may be carried about the person with convenience, and though very tough are pleasant to the taste. In the formula by which they are made, the proportion of sugar is too large, and that of gum arabic too small, if the mafs be intended to assuage the cravings of appetite. According to our author's information, the receipt is as follows. "Take of fine sugar four ounces, and of gum arabic one ounce: Levigate them well together; and add half an ounce of rose water, and of the white of eggs a sufficient quantity."

In our attempts to recover those who have suffered under the calamities of famine, great circumspection is required. Warmth, cordials, and food, are the means to be employed; and it is evident that these may prove too powerful in their operation, if not administered with caution and judgment. For the body, by long fasting, is reduced to a state of more than infantile debility; the minuter vessels of the brain, and of the other organs, collapse for want of fluids to distend them; the stomach and intestines shrink in their capacity; and the heart languidly vibrates, having scarcely sufficient energy to propel the scanty current of blood. Under such circumstances, a proper application of heat seems an essential measure, and may be effected by placing on each side a healthy man in contact with the patient. Pediluvia or fomentations may also be used with advantage. The temperature of these should be lower than that of the human body, and gradually increased according to the effects of their stimulus. New milk, weak broth, or water gruel, ought to be employed both for the one and the other; as nutriment may be conveyed into the system this way, by passages probably the most pervious in a state of fasting, if not too long protracted. "A lad at New-market†, a few years ago, having been almost starved in order that he might be reduced to a proper weight for riding a match, was weighed at nine o'clock in the morning, and again at ten; and he was found to have gained near thirty ounces in weight in the course of an hour, though he had only drank half a glass of wine in the interval. The wine probably stimulated the action of the nervous system, and incited nature, exhausted by abstinence, to open the absorbent pores of the whole body, in order to suck in some nourishment from the air." But no such absorption as this can be expected in a state of extreme weakness and emaciation gradually induced; because the lymphatics must partake of the general want of tone and energy. And notwithstanding the salutary effects of wine in the case of the jockey,

who, it is likely, had been reduced by sweating as well as by abstinence, such a stimulant might prove dangerous, and even fatal in other cases. It appears safer therefore to advise the exhibition of cordials in very small doses, and at first considerably diluted. Slender wine-whey will perhaps best answer this purpose; and afford, at the same time, an easy and pleasant nourishment. When the stomach has been a little strengthened, an egg may be mixed with the whey, or administered under some other agreeable form. The yolk of one was, to Cornaro, sufficient for a meal; and the narrative of this noble Venetian, in whom a fever was excited by the addition of only two ounces of food to his daily allowance, shows, that the return to a full diet should be conducted with great caution, and by very slow gradations.

HUNNS, a fierce and savage nation, who formerly inhabited that part of Sarmatia bordering on the Paulus Mæotis and the Tanais, the ancient boundary between Europe and Asia. Their country, as described by Procopius, lay north of mount Caucasus, which, extending from the Euxine to the Caspian Seas, parts Asiatic Sarmatia from Colchis, Iberia, and Albania; lying on the isthmus between the two seas above mentioned. Here they resided, unknown to other nations, and themselves ignorant of other countries, till the year 376. At this time, an hind pursued by the hunters, or, according to some authors, an ox stung by a gad-fly, having passed the marsh, was followed by some Hunns to the other side, where they discovered a country much more agreeable than their own. On their return, having acquainted their countrymen with what they had seen, the whole nation passed the marsh, and, falling upon the Alans who dwelt on the banks of the Tanais, almost exterminated them. They next fell upon the Ostrogoths, whom they drove out of their country, and forced to retire to the plains between the Borysthenes and the Tanais, now known by the name of *Podolea*. Then attacking the Visigoths, they obliged them to shelter themselves in the most mountainous parts of their country; till at last the Gothick nations, finding it impossible to withstand such an inundation of barbarians, obtained leave from the emperor Valens to settle in Thrace.

The Hunns thus became masters of all the country between the Tanais and Danube in 376, where they continued quietly till the year 388, when great numbers of them were taken into the pay of Theodosius I. but, in the mean time, a party of them, called the *Nepthalite* or *White Hunns*, who had continued in Asia, over-ran all Mesopotamia, and even laid siege to Edessa, where they were repulsed with great slaughter by the Romans. The European Hunns frequently passed the Danube, committing the greatest ravages in the western empire; sometimes they fell upon the eastern provinces, where they put all to fire and sword. They were often defeated and repulsed by the Romans, but the empire was now too weak to subdue or confine them from making excursions; so that they continued to make daily encroachments, and became every day more formidable than before. In 441, the Hunns, under Attila, threatened the western empire with total destruction. This monarch, having made himself master of all the northern countries from the confines of Persia to the banks of the Rhine, invaded Mæsia, Thrace,

† Watson's
Chemical
Essays,
vol. iii.
p. 101.

Hunger. Thrace, and Illyricum; where he made such progress, that the emperor, not thinking himself safe in Constantinople, withdrew into Asia. Attila then broke into Gaul; where he took and destroyed several cities, massacring the inhabitants with the greatest cruelty. At last he was driven out with great slaughter by Aetius the Roman general and Theodoric king of the Goths, and could never afterwards make any great progress. About the year 452 or 453 Attila died, and his kingdom was immediately split into a number of small ones by his numerous children, who waged perpetual war with each other. The Hunns then ceased to be formidable, and became daily less able to cope with the other barbarous nations whom Attila had kept in subjection. Still, however, their dominion was considerable; and in the time of Charles the Great they were masters of Transylvania, Walachia, Servia, Carniola, Carinthia, and the greater part of Austria, together with Bosnia, Slavonia, and that part of Hungary which lies beyond the Danube. In the year 776, while Charles was in Saxony, two princes of the Hunns, Caganus and Jugunus, sent ambassadors to him, desiring his friendship and alliance. Charles received them with extraordinary marks of friendship, and readily complied with their request. However, they entered, not long after, into an alliance with Tassila duke of Bavaria, who had revolted from Charles, and raised great disturbances in Germany. Charles dissembled his resentment till he had entirely reduced Bavaria, when he resolved to revenge himself on the Hunns for those succours they had underhand given to his enemy. Accordingly, he ordered levies to be made throughout his dominions; and having by that means assembled a very numerous army, he divided it into two bodies, one of which he commanded himself, and the other he committed to the care of his generals. The two armies entered the country of the Hunns at different places, ravaged their country far and near, burnt their villages, and took all their strong holds. This he continued for eight years, till the people were almost totally extirpated; nor did the Hunns ever afterwards recover themselves, or appear as a distinct nation.

There were two different nations that went by the name of *Hunns*; the Nephthalite or White Hunns, and the Sarmatian or Scythian Hunns. The former inhabited a rich country, bordering to the north on Persia, and at a great distance from the Sarmatian or Scythian Hunns, with whom they had no intercourse nor the least resemblance either in their persons or manners. They were a powerful nation, and often served against the Romans in the Persian armies; but in the reign of the emperor Zeno, being provoked by Perozes king of Persia laying claim to part of their country, they defeated the Persians in two pitched battles, slew their king, over-ran all Persia, and held it in subjection for the space of two years, obliging Cabades, the son and successor of Perozes, to pay them a yearly tribute. These Hunns, called by the writers of those times the *white Hunns*, did not wander, like the others, from place to place; but, contented with their own country, which supplied them with all necessities, they lived under a regular government, subject to one prince, and seldom made inroads, unless provoked either into the Persian or Roman territories.

Hunger. They lived according to their own laws, and dealt up-
rightly with one another, as well as with the neighbouring people. Each of their great men used to choose 20 or more companions to enjoy with him his wealth, and partake of all his diversions; but, upon his decease, they were all buried with him in the same grave. This custom favours of barbarity; but in every other respect, the Nephthalite were a far more civilized nation than the Scythian Hunns, who, breaking into the empire, filled most of the provinces of Europe with blood and slaughter.

The latter were, according to Ammianus Marcellinus, a savage people, exceeding in cruelty the most barbarous nations. They begin to practise their cruelty, says Jornandes, upon their own children the very first day they come into the world, cutting and mangling the cheeks of their males, to prevent the growth of hair, which they must have looked upon, contrary to the sentiments of other nations, as unbecoming and unmanly. They had, perhaps, in this practice another view, which Jornandes seems to insinuate elsewhere, viz. to strike terror into the enemy with their countenances, thus deformed and covered with scars. They had no other food but roots and raw meat, being quite unacquainted with the use of fire, and no houses at all, not even huts; but lived constantly exposed to the air in the woods, and on the mountains, where, from their infancy, they were inured to hunger, thirst, and all manner of hardships: nay, they had such an aversion to houses, which they called the *sepulchres of the living*, that, when they went into other countries, they could hardly be prevailed upon to come within the walls of any house, not thinking themselves safe when shut up and covered. They used even to eat and sleep on horseback, scarce ever dismounting; which, in all likelihood, induced Zosimus to write, that the Hunns could not walk. They covered their nakedness with goats skins, or the skins of a sort of mice sewed together. Day and night were indifferent to them, as to buying, selling, eating, and drinking. They had no law, nor any kind of religion; but complied with their inclinations, whatever they prompted them to, without the least restraint, or distinction between good and evil. In war, they began the battle with great fury, and an hideous noise: but if they met with a vigorous opposition, their fury began to abate after the first onset; and when once put into disorder, they never rallied, but fled in the utmost confusion. They were quite unacquainted with the art of besieging towns; and authors observe, that they never attacked the enemy's camp. They were a faithless nation, and thought themselves no longer bound by the most solemn treaties, than they found their advantage in observing them. Hence we often find them, upon the least prospect of obtaining more advantageous conditions, breaking into the Roman empire, in defiance of the most solemn oaths and engagements. Several corps of Hunns, after their coming into Europe, served in the Roman armies against the Goths and other barbarous nations; nay, they were ready, for hire, to fight against each other, being blind to every other regard and consideration.

HUNGERFORD, a town of Berkshire in England, seated on the river Kennet, in a low and watery soil. It is a great thoroughfare in the Bath and Bristol

Hunnin-
guen,
Hunter.

stol road, 65 miles from London; and was formerly called *Ingleford-Charnamstreet*. The constable of this town, who is chosen annually, is lord of the manor, which he holds immediately of the crown. They have a horn here which holds about a quart, and appears by an inscription on it to have been given by John of Gaunt, together with a grant of the royal fishery, in a part of the river which abounds with good trouts and craw-fish. Here is a market on Wednesdays, and fair in August.

HUNNINGUEN, a town of Germany, in Alsace, and in Suntgaw, subject to the French; seated on the Rhine, and fortified by Vauban. E. Long. 11. 40. N. Lat. 47. 42.

HUNTER, a name given to a horse qualified to carry a person in the chace. The shape of the horse designed for this service, should be strong and well knit together, as the jockeys express it. Irregular or unequal shapes in these creatures are always a token of weakness. The inequalities in shape which show a horse improper for the chace, are the having a large head and a small neck, a large leg and a small foot, and the like. The head of the hunter should indeed always be large, but the neck should also be thick and strong to support it. The head should be lean, the nostrils wide, and the windpipe straight.

The hunter, in order to his behaving well in the field, ought to have great care and indulgence in the stable: he ought to have as much rest and quiet as may be, to be kept well supplied with good meat, clean litter, and fresh water by him; he should be often dressed, and suffered to sleep as much as he pleases. He should be so fed, that his dung may be rather soft than hard, and it must be of a bright and clean colour. All this may be easily managed by the continual observance and change of his food, as occasion requires. After his usual scourings he should have exercises and mashes of sweet malt, or bread and beans; or wheat and beans mixed together, are to be his best food, and beans and oats his worst.

Some very great sportsmen are for keeping their horses out at grass all the buck-hunting season, never taking them up into the stable at all, but allowing them in the field as much oats with their grass as they will eat. The horse may be thus rid three days in the week for the whole season, and never damaged by it, nor ever showing any marks of harm afterwards.

The whole shape of a horse intended for a hunter, should be this: The ears should be small, open, and pricked; or though they be somewhat long, yet if they stand up erect and bold like those of a fox, it is a sign of toughness or hardiness. The forehead should be long and broad, not flat; or, as it is usually termed, *mare-faced*, but rising in the middle like that of a hare; the feather should be placed above the eye, the contrary being thought by some to threaten blindness. The eyes should be full, large, and bright; the nostrils not only large, but looking red and fresh within; for an open and fresh nostril is always esteemed a sign of a good wind. The mouth should be large, deep in the wicks, and hairy. The wind-pipe should be large, and appear straight when he bridles his head; for if, on the contrary, it bends like a bow on his bridling, it is not formed for a free passage of the breath. This defect in a horse is expressed among the dealers by the

phrase *cock-thropped*. The head should be so set on to the neck, that a space may be felt between the neck and the chine; when there is no such space, the horse is said to be bull-necked; and this is not only a blemish in the beauty of the horse, but it also occasions his wind not to be so good. The crest should be strong, firm, and well risen; the neck should be straight and firm, not loose and pliant; the breast should be strong and broad, the ribs round like a barrel, the fillets large, the buttocks rather oval than broad, the legs clean, flat, and straight; and, finally, the mane and tail ought to be long and thin, not short and bushy, the last being counted a mark of dulness. When a hunter is thus chosen, and has been taught such obedience, that he will readily answer to the rider's signals both of the bridle and hand, the voice, the calf of the leg, and the spurs; that he knows how to make his way forward, and has gained a true temper of mouth, and a right placing of his head, and has learned to stop and to turn readily, if his age be sufficiently advanced, he is ready for the field. It is a rule with all staunch sportsmen, that no horse should be used in hunting till he is full five years old; some will hunt them at four, but the horse at this time is not come up to his true strength and courage, and will not only fail at every tough trial, but will be subject to strains and accidents of that kind, much more than if he were to be kept another year first, when his strength would be more confirmed.

When the hunter is five years old, he may be put to grass from the middle of May till Bartholomew-tide; for the weather between these is so hot, that it will be very proper to spare him from work. At Bartholomew-tide, the strength of the grass beginning to be nipped by frosts and cold dews, so that it is apt to engender crudities in the horse, he should be taken up while his coat is yet smooth and sleek and put into the stable. When he is first brought home, he should be put in some secure and spacious place, where he may evacuate his body by degrees, and be brought not all at once to the warm keeping; the next night he may be stabled up. It is a general rule with many not to clothe and stable up their horses till two or three days after they are taken from grass, and others who put them in the stable after the first night, yet will not dress and clothe them till three or four days afterward; but all this, except the keeping the horse one day in a large and cool place, is needless caution.

There is a general practice among the grooms, in many places, of giving their hunters wheat-straw as soon as they take them up from grass. They say they do this to take up their bellies; but there seems much reason to disapprove of this. The change is very violent, and the nature of the straw so heating and drying, that there seems great reason to fear that the astringent nature of it would be prejudicial, more than is at first perceived. It is always found that the dung is hard after this food, and is voided with pain and difficulty, which is in general very wrong for this sort of horse. It is better therefore to avoid this straw-feeding, and to depend upon moderate airing, warm cloathing, and good old hay, and old corn, than to have recourse to any thing of this kind.

When the horse has evacuated all his grass, and has been properly shod, and the shoes have had time to

Hunters

settle.

Hunter

settle to his feet, he may be ridden abroad, and treated in this manner: the groom ought to visit him early in the morning, at five o'clock in the long days, and at six in the short ones; he must then clean out the stable, and feel the horse's neck, flank, and belly, to find the state of his health. If the flank feels soft and flabby, there is a necessity of good diet to harden it, otherwise any great exercise will occasion swellings and goutiness in the heels. After this examination, a handful or two of good old oats, well sifted, should be given him; this will make him have more inclination to water, and will also make the water sit better on his stomach, than if he drank fasting. After this he is to be tied up and dressed. If in the doing of this he opens his mouth, as if he would bite, or attempts to kick at the person, it is a proof that the teeth of the curry-comb are too sharp, and must be filed blunter. If after this he continues the same tricks, it is through wantonness, and he should be corrected for it with the whip. The intent of currying being only to raise the dust, this is to be brushed off afterwards with a horse-tail nailed to a handle, or any other light brush. Then he is to be rubbed down with the brush, and dusted a second time; he should then be rubbed over with a wet hand, and all the loose hairs, and whatever foulness there is, should be picked off. When this is done, and he is wiped dry as at first, a large saddle-cloth is to be put on, reaching down to the spurring place; then the saddle is to be put on, and a cloth thrown over it that he may not take cold: then rub down his legs, and pick his feet with an iron picker, and let the mane and tail be combed with a wet mane-comb. Lastly, it is a custom to spurt some beer in his mouth just before the leading him out of the stable. He should then be mounted, and walked a mile at least to some running water, and there watered; but he must only be suffered to take about half his water at one drinking.

It is the custom of many to gallop the horse at a violent rate as soon as he comes out of the water; but this is extremely wrong for many reasons. It endangers the breaking a horse's wind more than any other practice, and often has been the occasion of bursting very good horses. It uses them also to the disagreeable trick we find in many horses, of running away as soon as ever they come out of the water: and with some it makes them averse to drinking, so that they will rather endure thirst, and hurt themselves greatly by it, than bring on the violent exercise which they remember always follows it. The better way is to walk him a little after he is out of the water, then put him to a gentle gallop for a little while, and after this to bring him to the water again. This should be done three or four times, till he will not drink any more. If there is a hilly place near the watering-place, it is always well to ride up to it; if otherwise, any place is to be chosen where there is free air and sun. That the creature may enjoy the benefit of this, he is not to be galloped, but walked about in this place an hour, and then taken home to the stable. The pleasure the horse himself takes in these airings when well managed is very evident; for he will gape, yawn, and shrug up his body: and in these, whenever he would stand still to stale, dung, or listen to any noise, he is not to be

hindered from it, but encouraged in every thing of this kind. Hunter.

The advantages of these airings are very evident; they purify the blood, teach the creature how to make his breathing agree with the rest of the motions of his body, and give him an appetite to his food, which hunters and racers that are kept stalled up are otherwise very apt to lose. On returning from airing, the litter of the stable should be fresh, and by stirring this and whistling, he will be brought to stale. Then he is to be led to his stall, and tied up, and again carefully rubbed down; then he should be covered with a linen cloth next his body, and a canvas one over that, made to fit him, and reaching down to his legs. This, as the duke of Newcastle observes, is a custom which we learned of the Turks, who are of all people the most nice and careful of their horses. Over this covering there should be put a body-cloth of six or eight straps; this keeps his belly in shape, and does not hurt him. This cloathing will be sufficient while the weather is not very sharp, but in severe seasons, when the hair begins to rise and start in the uncovered parts, a woollen cloth is to be added, and this will always prove fully sufficient.

Different horses, and different seasons, make variety of the degree of cloathing necessary; but there always is an obvious rule to point out the necessary changes, the roughness of the coat being a mark of the want of cloathing, and the smoothness of it a proof that the cloathing is sufficient. Therefore if at any time the hair is found to start, it is a notice that some farther cloathing is to be added.

If the horse sweat much in the night, it is a sign that he is over fed and wants exercise; this therefore is easily remedied. An hour or more after the horse is come in from his airing, the groom should give him a wisp of clean hay, making him eat it out of his hand; after this let the manger be well cleaned out, and a quartern of oats clean sifted be given him. If he eats up this with an appetite, he should have more given him; but if he is slow and indifferent about it, he must have no more. The business is to give him enough, but not to cloy him with food.

If the horse gets flesh too fast on this home feeding, he is not to be stinted to prevent it, but only his exercise increased; this will take down his flesh, and at the same time give him strength and wind. After the feeding in the morning is over the stable is to be shut up, only leaving him a little hay on his litter. He need be no more looked at till one o'clock, and then only rubbed down, and left again to the time of his evening watering, which is four o'clock in the summer and three in the winter. When he has been watered, he must be kept out an hour or two, or more if necessary, and then taken home and rubbed as after the morning watering. Then he is to have a feed of corn at six o'clock, and another at nine at night; and being then cleaned, and his litter put in order, and hay enough left for the night, he is to be left till morning. This is the direction for one day, and in this manner he is to be treated every day for a fortnight; at the end of which time his flesh will be so hardened, his wind so improved, and his mouth so quickened, and his gallop brought to so good a stroke, that he will be

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fit to be put to moderate hunting. During the time that he is used to hunting, he must be ordered on his days of rest exactly as he is directed for the fortnight when he is in preparation; but as his exercise is now greatly increased, he must be allowed a more strengthening food, mixing some old split beans at every feeding with his oats.

And if this is not found to be sufficient, the following bread must be given: let two pecks of old beans and one peck of wheat be ground together, and made into an indifferently fine meal; then knead it into dough with some warm water and a good quantity of yeast; let it lie a time that it may rise and swell, which will make the bread the lighter; then make it into loaves of a peck each, and let it be baked in a slow oven, that it may be thoroughly done without being burnt; when it is taken out of the oven, it must be set bottom upwards to cool: when it is one day old the crust is to be chipped off, and the crumb given him for food. When this is ready, he should have some of it at least once in the day; but it is not to be made the only food, but some feeds are to be of oats alone, some of oats and this bread, and some of oats and beans mixed together. The making a variety in this manner being the best of all methods of keeping up the appetite, which is often apt to fail.

The day before the horse is to hunt, he must have no beans, because they are hard of digestion, but only some oats with this bread; or if he will be brought to eat the bread alone, that will be best of all. His evening feed should on this day be somewhat earlier than usual; and after this he is only to have a wisp of hay out of the groom's hand till he return from hunting.

HUNTER (Dr William), a celebrated anatomist and physician, was born on the 23d of May 1718, at Kilbride in the county of Lanerk in Scotland. He was the seventh of ten children of John and Agnes Hunter, who resided on a small estate in that parish called *Long Calderwood*, which had been long in the possession of his family. His great grandfather by his father's side, was a younger son of Hunter of Hunterston, chief of the family of that name. At the age of fourteen his father sent him to the college of Glasgow. In this seminary he passed five years; and by his prudent behaviour and diligence acquired the esteem of the professors, and the reputation of being a good scholar. His father had designed him for the church; but the idea of subscribing to articles of faith was so repugnant to the liberal mode of thinking he had already adopted, that he felt an insuperable aversion to his theological pursuits. In this state of mind he happened to become acquainted with Dr Cullen, the late celebrated professor at Edinburgh, who was then just established in practice at Hamilton under the patronage of the duke of Hamilton. Dr Cullen's conversation soon determined him to lay aside all thoughts of the church, and to devote himself to the profession of physic. His father's consent having been previously obtained, Mr Hunter in 1737 went to reside with Dr Cullen. In the family of this excellent friend and preceptor he passed nearly three years; and these, as he has been often heard to acknowledge, were the happiest years of his life. It was then agreed, that he should go and prosecute his medical studies at Edinburgh and Lon-

don, and afterwards return to settle at Hamilton in partnership with Dr Cullen. He accordingly set out for Edinburgh in November 1740; and continued there till the following spring, attending the lectures of the medical professors, and amongst others those of the late Dr Alexander Monro, who many years afterwards, in allusion to this circumstance, styled himself his *old master*.

Mr Hunter arrived in London in the summer of 1741, and took up his residence at Mr, afterwards Dr, Smellie's, who was at that time an apothecary in Pall Mall. He brought with him a letter of recommendation to his countryman Dr James Douglas, from Mr Foulis printer at Glasgow, who had been useful to the Doctor in collecting for him different editions of *Horace*. Dr Douglas was then intent on a great anatomical work on the bones, which he did not live to complete, and was looking out for a young man of abilities and industry whom he might employ as a dissector. This induced him to pay particular attention to Mr Hunter; and finding him acute and sensible, he desired him to make him another visit. A second conversation confirmed the doctor in the good opinion he had formed of Mr Hunter; and without any farther hesitation he invited him into his family to assist in his dissections and to superintend the education of his son.—Mr Hunter having accepted Dr Douglas's invitation, was by his friendly assistance enabled to enter himself as a surgeon's pupil at St George's Hospital under Mr James Wilkie, and as a dissecting pupil under Dr Frank Nichols who at that time taught anatomy with considerable reputation. He likewise attended a course of lectures on experimental philosophy by Dr Desaguliers. Of these means of improvement he did not fail to make a proper use. He soon became expert in dissection, and Dr Douglas was at the expence of having several of his preparations engraved. But before many months had elapsed, he had the misfortune to lose this excellent friend.—The death of Dr Douglas, however, made no change of the situation of our author. He continued to reside with the Doctor's family, and to pursue his studies with the same diligence as before.

In 1743 he communicated to the Royal Society an essay on the Structure and Diseases of articulating Cartilages. This ingenious paper, on a subject which till then had not been sufficiently investigated, affords a striking testimony of the rapid progress he had made in his anatomical inquiries. As he had it in contemplation to teach anatomy, his attention was directed principally to this object; and it deserves to be mentioned as an additional mark of his prudence, that he did not precipitately engage in this attempt, but passed several years in acquiring such a degree of knowledge and such a collection of preparations, as might insure him success. Dr Nichols, to whom he communicated his scheme, and who declined giving lectures about that time in favour of the late Dr Lawrence, did not give him much encouragement to prosecute it. But at length an opportunity presented itself for the display of his abilities as a teacher. A society of navy surgeons had an apartment in Covent Garden, where they engaged the late Mr Samuel Sharpe to deliver a course of lectures on the operations of surgery. Mr Sharpe continued to repeat this course,

till

Dr Foart
Simmons's
account of
the life and
writings of
Dr W.
Hunter.

Hunter. till finding that it interfered too much with his other engagements, he declined the task in favour of Mr Hunter; who gave the society so much satisfaction, that they requested him to extend his plan to anatomy, and at first he had the use of their room for his lectures. This happened in the winter of 1746. He is said to have experienced much solicitude when he began to speak in public: but the applause he met with soon inspired him with courage; and by degrees he became so fond of teaching, that for many years before his death he was never happier than when employed in delivering a lecture. The profits of his two first courses were considerable; but by contributing to the wants of different friends, he found himself at the return of the next season obliged to defer his lectures for a fortnight, merely because he had not money enough to defray the necessary expence of advertisements.

In 1747, he was admitted a member of the corporation of surgeons; and in the spring of the following year, soon after the close of his lectures, he set out in company with his pupil, Mr James Douglas, on a tour through Holland to Paris. His lectures suffered no interruption by this journey, as he returned to England soon enough to prepare for his winter-course, which began about the usual time.

At first he practised both surgery and midwifery; but to the former of these he had always an aversion. His patron, Dr James Douglas, had acquired considerable reputation in midwifery; and this probably induced Mr Hunter to direct his views chiefly to the same line of practice. His being elected one of the surgeon men-midwives, first to the Middlesex, and soon afterwards to the British Lying-in Hospital, assisted in bringing him forward in this branch of his profession, in which he was recommended by several of the most eminent surgeons of that time, who respected his anatomical talents and wished to encourage him. But these were not the only circumstances that contributed to his success. He owed much to his abilities, and much to his person and manner, which eminently qualified him for the practice of midwifery.

In 1750, he seems to have entirely relinquished his views in surgery; as in that year he obtained the degree of Doctor of Physic from the university of Glasgow, and began to practise as a physician. About this time he quitted the family of Mrs Douglas, and went to reside in Jermyn-street. In the summer of 1751 he revisited his native country, for which he always retained a cordial affection. His mother was still living at Long Calderwood, which was now become his property by the death of his brother James. Dr Cullen, for whom he always entertained a sincere regard, was then established at Glasgow, and had acquired considerable reputation both as a practitioner and teacher of physic; so that the two friends had the pleasure of being able to congratulate each other on their mutual prosperity. During this visit he showed his attachment to his little paternal inheritance, by giving many instructions for repairing and improving it, and for purchasing any adjoining lands that might be offered for sale. After this journey to Scotland, to which he devoted only a few weeks, he was never absent from London, unless his professional engagements, as sometimes happened, required his attendance at a distance from the capital.

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Hunter. In 1755, on the resignation of Dr Layard, one of the physicians of the British lying-in hospital, we find the governors of that institution voting their "thanks to Dr Hunter for the services he had done the hospital, and for his continuing in it as one of the physicians;" so that he seems to have been established in this office without the usual form of an election. The year following he was admitted a licentiate of the Royal College of Physicians. Soon afterwards he was elected a member of the Medical Society; and to the *Observations and Inquiries* published by that society, he at different periods contributed several valuable papers.

In 1762, we find him warmly engaged in controversy, supporting his claim to different anatomical discoveries, in a work intitled *Medical Commentaries*, the style of which is correct and spirited. As an excuse for the tardiness with which he brought forth this work, he observes in his introduction, that it required a good deal of time, and he had little to spare; that the subject was unpleasant, and therefore he was very seldom in the humour to take it up. In this publication he confined himself chiefly to a dispute with the present learned professor of anatomy at Edinburgh, concerning injections of the testicle, the ducts of the lacrymal gland, the origin and use of the lymphatic vessels, and absorption by veins. He likewise defended himself against a reproach thrown upon him by professor Monro senior, by giving a concise account of a controversy he was involved in with Mr Pott concerning the discovery of the Hernia Congenita. It was not long before Mr Pott took occasion to give the public his account of the dispute; and, in reply, Dr Hunter added a supplement to his commentaries. No man was ever more tenacious than Dr Hunter of what he conceived to be his anatomical rights. This was particularly evinced in the year 1780, when his brother communicated to the Royal Society a discovery he had made 25 years before, relative to the structure of the placenta, the communication between it and the uterus, and the vascularity of the spongy chorion. At the next meeting of the society, a letter was read, in which Dr Hunter put in his claim to the discovery in question. This letter was followed by a reply from Mr John Hunter, and here the dispute ended.

In 1762, when the queen became pregnant, Dr Hunter was consulted: and two years afterwards he had the honour to be appointed physician extraordinary to her majesty.

About this time his avocations were so numerous, that he became desirous of lessening his fatigue; and having noticed the ingenuity and assiduous application of the late Mr William Hewson, F. R. S. who was then one of his pupils, he engaged him first as an assistant, and afterwards as a partner, in his lectures. This connection continued till the year 1770; when some disputes happened, which terminated in a separation. Mr Hewson was succeeded in the partnership by Mr Cruikshank, whose anatomical abilities are deservedly respected.

In 1767, Dr Hunter was elected a fellow of the Royal Society: and in the year following communicated to that learned body observations on the bones, commonly supposed to be elephants bones, which have been found near the river Ohio in America. This

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was not the only subject of natural history on which our author employed his pen; for in a subsequent volume of the Philosophical Transactions, we find him offering his remarks on some bones found in the rock of Gibraltar, and which he proves to have belonged to some quadruped. In the same work, likewise, he published an account of the nyl-ghau, an Indian animal not described before. In 1768, Dr Hunter became a fellow of the Society of Antiquaries; and the same year, at the institution of a Royal Academy of Arts, he was appointed by his majesty to the office of professor of anatomy. This appointment opened a new field for his abilities; and he engaged in it, as he did in every other pursuit of his life, with unabating zeal. He now adapted his anatomical knowledge to the objects of painting and sculpture, and the novelty and justness of his observations proved at once the readiness and extent of his genius. In January 1781, he was unanimously elected to succeed the late Dr John Fothergill as president of the Medical Society. As his name and talents were known and respected in every part of Europe, so the honours conferred on him were not limited to his own country. In 1780, the Royal Medical Society at Paris elected him one of their foreign associates; and in 1782, he received a similar mark of distinction from the Royal Academy of Sciences in that city.

The most splendid of Dr Hunter's medical publications was the Anatomy of the Human Gravid Uterus. The appearance of this work, which had been begun so early as the year 1751 (at which time 10 of the 34 plates it contains were completed), was retarded till the year 1775, only by the author's desire of sending it into the world with fewer imperfections. This great work is dedicated to the king. In his preface to it, we find the author very candidly acknowledging, that in most of the dissections he had been assisted by his brother Mr John Hunter, "whose accuracy (he adds) in anatomical researches is so well known, that to omit this opportunity of thanking him for that assistance would be in some measure to disregard the future reputation of the work itself." He likewise confesses his obligations to the ingenious artists who made the drawings and engravings; "but particularly to Mr Strange, not only for having by his hand secured a sort of immortality to two of the plates, but for having given his advice and assistance in every part with a steady and disinterested friendship. An anatomical description of the gravid uterus was a work which Dr Hunter had in contemplation to give the public. He had likewise long been employed in collecting and arranging materials for a history of the various concretions that are formed in the human body. Amongst Dr Hunter's papers have been found two introductory lectures, which are written out so fairly, and with such accuracy, that he probably intended no farther correction of them before they should be given to the world. In these lectures Dr Hunter traces the history of anatomy from the earliest to the present times, along with the general progress of science and the arts. He considers the great utility of anatomy in the practice of physic and surgery; gives the ancient divisions of the different substances composing the human body, which for a long time prevailed in anatomy; points out the most advantageous mode of cultivating this branch of natural knowledge; and con-

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cludes with explaining the particular plan of his own lectures. Besides these manuscripts, he has also left behind him a considerable number of cases of dissection: mostly relating to pregnant women.

The same year in which the Tables of the Gravid Uterus made their appearance, Dr Hunter communicated to the Royal Society an Essay on the Origin of the Venereal Disease. In this paper he attempted to prove, that this dreadful malady was not brought from America to Europe by the crew of Columbus, as had been commonly supposed, although it made its first appearance about that period. After this paper had been read to the Royal Society, Dr Hunter, in a conversation with the late Dr Musgrave, was convinced that the testimony on which he placed his chief dependence was of less weight than he had at first imagined, as many of Martyr's letters afford the most convincing proofs of their having been written a considerable time after the period of their dates. He therefore very properly laid aside his intention of giving his essay to the public. In the year 1777 Dr Hunter joined with Mr Watson in presenting to the Royal Society a short account of the late Dr Maty's illness, and of the appearances on dissection; and the year following he published his Reflections on the Section of the Symphysis Pubis.

We must now go back a little into the order of time to describe the origin and progress of Dr Hunter's museum, without some account of which the history of his life would be very incomplete.

When he began to practise midwifery, he was desirous of acquiring a fortune sufficient to place him in easy and independent circumstances. Before many years had elapsed, he found himself in possession of a sum adequate to his wishes in this respect; and this he set apart as a resource of which he might avail himself whenever age or infirmities should oblige him to retire from business. After he had obtained this competency, as his wealth continued to accumulate, he formed a laudable design of engaging in some scheme of public utility, and at first had it in contemplation to found an anatomical school in this metropolis. For this purpose, about the year 1765, during the administration of Mr Grenville, he presented a memorial to that minister, in which he requested the grant of a piece of ground in the Mews, for the site of an anatomical theatre. Dr Hunter undertook to expend L. 7000 on the building, and to endow a professorship of anatomy in perpetuity. This scheme did not meet with the reception it deserved. In a conversation on this subject soon afterwards with the earl of Shelburne, his lordship expressed a wish that the plan might be carried into execution by subscription, and very generously requested to have his name set down for a thousand guineas. Dr Hunter's delicacy would not allow him to adopt this proposal. He chose rather to execute it at his own expence; and accordingly purchased a spot of ground in Great Windmill-street, where he erected a spacious house, to which he removed from Jermyn-street in 1770. In this building, besides a handsome amphitheatre and other convenient apartments for his lectures and dissections, there was one magnificent room, fitted up with great elegance and propriety as a museum. Of the magnitude and value of his anatomical collection some idea

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may be formed, when we consider the great length of years he employed in the making of anatomical preparations and in the dissection of morbid bodies, added to the eagerness with which he procured additions from the collections of Sandys, Hewson, Falconer, Blackall, and others, that were at different times offered for sale in this metropolis. His specimens of rare diseases were likewise frequently increased by presents from his medical friends and pupils; who, when any thing of this sort occurred to them, very justly thought they could not dispose of it more properly than by placing it in Dr Hunter's museum. Speaking of an acquisition in this way in one of his publications, he says, "I look upon every thing of this kind which is given to me, as a present to the public; and consider myself as thereby called upon to serve the public with more diligence."

Before his removal to Windmill-street, he had confined his collection chiefly to specimens of human and comparative anatomy and of diseases; but now he extended his views to fossils, and likewise to the promotion of polite literature and erudition. In a short space of time he became possessed of "the most magnificent treasure of Greek and Latin books that has been accumulated by any person now living since the days of Mead." A cabinet of ancient medals contributed likewise much to the richness of his museum. A description of part of the coins in this collection, struck by the Greek free cities, has lately been published by the Doctor's learned friend Mr Combe. In a classical dedication of this elegant volume to the queen, Dr Hunter acknowledges his obligations to her majesty. In the preface some account is given of the progress of the collection, which has been brought together since the year 1770, with singular taste, and at the expence of upwards of L. 20,000. In 1781, the museum received a valuable addition of shells, corals, and other curious subjects of natural history, which had been collected by the late worthy Dr Fothergill, who gave directions by his will, that his collection should be appraised after his death, and that Dr Hunter should have the refusal of it at L. 500 under the valuation. This was accordingly done, and Dr Hunter purchased it for the sum of L. 1200. The fame of this museum spread throughout Europe. Few foreigners distinguished for their rank or learning visited this metropolis without requesting to see it. Men of science of our own country always had easy access to it.—Considered in a collective point of view, it is perhaps without a rival.

Dr Hunter, at the head of his profession, honoured with the esteem of his sovereign, and in possession of every thing that his reputation and wealth could confer, seemed now to have attained the summit of his wishes. But these sources of gratification were imbibed by a disposition to the gout, which harassed him frequently during the latter part of his life, notwithstanding his very abstemious manner of living. On Saturday the 15th of March 1783, after having for several days experienced a return of a wandering gout, he complained of great head-ach and nausea. In this state he went to bed, and for several days felt more pain than usual both in his stomach and limbs. On the Thursday following he found himself so much recovered, that he determined to give the introductory lecture to the

operations of surgery. It was to no purpose that his friends urged to him the impropriety of such an attempt. He was determined to make the experiment, and accordingly delivered the lecture; but towards the conclusion his strength was so exhausted that he fainted away, and was obliged to be carried to bed by two servants. The following night and day his symptoms were such as indicated danger; and on Saturday morning Mr Combe, who made him an early visit, was alarmed on being told by Dr Hunter himself that during the night he had certainly had a paralytic stroke. As neither his speech nor his pulse were affected, and he was able to raise himself in bed, Mr Combe encouraged him to hope that he was mistaken. But the event proved the Doctor's idea of his complaint to be but too well founded; for from that time till his death, which happened on Sunday the 30th of March, he voided no urine without the assistance of the catheter, which was occasionally introduced by his brother; and purgative medicines were administered repeatedly without procuring a passage by stool. These circumstances, and the absence of pain, seemed to show, that the intestines and urinary bladder had lost their sensibility and power of contraction; and it was reasonable to presume that a partial palsy had affected the nerves distributed to those parts.

By his will, the use of his museum, under the direction of trustees, devolves to his nephew Matthew Baillie, B. A. and in case of his death to Mr Cruikshank for the term of thirty years, at the end of which period the whole collection is bequeathed to the university of Glasgow. The sum of eight thousand pounds sterling is left as a fund for the support and augmentation of the collection.

Dr Hunter was regularly shaped, but of a slender make, and rather below a middle stature. His manner of living was extremely simple and frugal, and the quantity of his food was small as well as plain. He was an early riser; and when business was over, was constantly engaged in his anatomical pursuits, or in his museum. There was something very engaging in his manner and address; and he had such an appearance of attention to his patients, when he was making his inquiries, as could hardly fail to conciliate their confidence and esteem. In consultation with his medical brethren, he delivered his opinions with diffidence and candour. In familiar conversation he was cheerful and unassuming. As a teacher of anatomy he has been long and deservedly celebrated. He was a good orator; and having a clear and accurate conception of what he taught, he knew how to place in distinct and intelligible points of view the most abstruse subjects of anatomy and physiology. Among other methods of explaining and illustrating his doctrines, he used frequently to introduce some apposite story or case that had occurred to him in his practice; and few men had acquired a more interesting fund of anecdotes of this kind, or related them in a more agreeable manner.

HUNTING, the exercise or diversion of pursuing four-footed beasts of game. See the article GAME.

Four-footed beasts are hunted in the fields, woods, and thickets, and that both with guns and greyhounds.

Birds, on the contrary, are either shot in the air,

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Hunting. or taken with nets and other devices, which exercise is called *fowling*; or they are pursued and taken by birds of prey, which is called *hawking*. See the articles FOWLING, HAWKING, FALCONRY, SHOOTING, BIRD-Catching, and DECOY.

F. de Launay, professor of the French laws, has an express treatise of hunting. From those words of God to Adam, Gen. i. 26, and 28. and to Noah, Gen. ix. 2, 3. hunting was considered as a right devolved or made over to man; and the following ages appear to have been of the same sentiment. Accordingly we find, that among the more civilized nations it made one of their diversions; and as to the wilder and more barbarous, it served them with food and necessities. The Roman jurisprudence, which was formed on the manners of the first ages, made a law of it, and established it as a maxim, that as the natural right of things which have no master belongs to the first possessor, wild beasts, birds, and fishes, are the property of whomsoever can take them first.

But the northern nations of barbarians who over-ran the Roman empire, bringing with them a stronger taste for the diversion, and the people being now possessed of other and more easy means of subsistence from the lands and possessions of those they had vanquished, their chiefs and leaders began to appropriate the right of hunting, and, instead of a natural right, to make it a royal one. Thus it continues to this day; the right of hunting, among us, belonging only to the king, and those who derive it from him.

The hunting used by the ancients was much like that now practised for the rein-deer; which is seldom hunted at force, or with hounds; but only drawn with a blood-hound, and forestalled with nets and engines. Thus did they with all beasts; whence a dog is never commended by them for opening before he has discovered where the beast lies. Hence, they were not in any manner curious as to the music of their hounds, or the composition of their kennel or pack, either for deepness, loudness, or sweetness of cry, which is a principal point in the hunting of our days. Their huntsmen, indeed, were accustomed to shout and make a great noise, as Virgil observes in the third of his Georgics: *Ingentem clamore preme ad retia cervum*. But that confusion was only to bring the deer to the nets laid for him.

The Sicilian way of hunting had something in it very extraordinary.—The nobles or gentry being informed which way a herd of deer passed, gave notice to one another, and appointed a meeting; every one bringing with him a cross-bow or long-bow, and a bundle of slaves shod with iron, the heads bored, with a cord passing through them all: thus provided, they came to the herd, and, casting themselves about in a large ring, surrounded the deer.—Then, each taking his stand, unbound his faggot, set up his stake, and tied the end of the cord to that of his next neighbour, at the distance of ten feet from one another.—Then taking feathers, dyed in crimson, and fastened on a thread, they tied them to the cord; so that with the least breath of wind they would whirl round.—

Which done, the persons who kept the stands withdrew, and hid themselves in the next covert. Then the chief ranger entering within the line with hounds to draw after the herd, roused the game with their cry; which flying towards the line, were turned off, and, still gazing on the shaking and shining feathers, wandered about as if kept in with a real wall or pale. The ranger still pursued, and calling every person by name as he passed by their stand, commanded him to shoot the first, third, or sixth, as he pleased: and if any of them missed, or singled out another than that assigned him, it was counted a grievous disgrace. By such means, as they passed by the several stations, the whole herd was killed by the several hands. *Pier. Hieroglyphic. lib. vii. cap. 6.*

Hunting formed the greatest part of the employment of the ancient Germans, and probably of the Britons also, when they were not engaged in war. We are informed by some ancient historians, that this was the case even as late as the third century with the unconquered Britons who lived beyond Adrian's wall; nay, that they subsisted chiefly by the prey they took in this way. The great attachment shown by all the Celtic nations to hunting, however, proceeded most probably from its being a kind of apprenticeship to war. Thus their youth acquired that courage, strength, swiftness, and dexterity in handling their arms, which made them so formidable in time of war to their enemies. Thus also they freed the country from many mischievous animals which abounded in the forests, furnishing themselves also with materials for those feasts which seem to have constituted their greatest pleasure. The young chieftains had thus likewise an opportunity of paying court to their mistresses, by displaying their bravery and agility, and making them presents of their game; nay, so strong and universal was the passion for hunting among the ancient Britons, that young ladies of the highest quality and greatest beauty spent much of their time in the chase. They employed much the same weapons in hunting that they did in war, viz. long spears, javelins, and bows and arrows; having also great numbers of dogs to assist them in finding and pursuing their game. These dogs, we are also told, were much admired among other nations, on account of their swiftness, strength, fierceness, and exquisite sense of smelling. They were of several different kinds, called by different names, and formed a considerable article of commerce. They were highly valued by all the Celtic nations, insomuch that some very comical penalties were inflicted upon those who were convicted of stealing them (A). From the poems of Ossian also it appears, that the Britons were not unacquainted with the art of catching birds with hawks trained for that purpose; but they seem to have been absolutely ignorant of the method of catching fish; for there is not a single allusion to this art in all the works of that venerable bard. Their ignorance of this art is both confirmed and accounted for by Dio Niceus, who assures us, that the ancient Britons never tasted fish, though they had innumerable multitudes in their seas, rivers, and lakes. "By the by (says Dr Henry), we

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(A) Si quis canem veltraum aut segutium vel petrunculum, præsumserit involare, jubemus ut convictus, coram omni populo, posteriora ipsius osculetur.

Hunting. may observe that this agreement between the poems of Ossian and the Greek historian, in a circumstance so singular, is at once a proof of the genuine antiquity of these poems, and that the Greek and Roman writers were not so ill informed about the affairs and manners of the ancient Britons as some have imagined."

The Mexicans, whatever imbecility may be imputed to them in other respects, were very dexterous in hunting. They used bows and arrows, darts, nets, snares, and a kind of tubes named *carbottane*, through which they shot by blowing out little balls at birds. Those which the kings and great men made use of were curiously carved and painted, and likewise adorned with gold and silver. Besides the exercise of the chase which private individuals took either for amusement or to provide food for themselves, there were general hunting-matches, sometimes appointed by the king; at others, undertaken with a view to provide plenty of victims for sacrifices. A large wood, generally that of Zacatapec, not far distant from the capital, was pitched upon as the scene of these grand hunting-matches. Here they chose the place best adapted for setting a great number of snares and nets. The wood was inclosed by some thousands of hunters, forming a circle of six, seven, or eight miles, according to the number of animals they intended to take. Fire was then set to the grass in a great number of places, and a terrible noise made with drums, horns, shouting, and whistling. The hunters gradually contracted their circle, continuing the noise till the game were inclosed in a very small space. They were then killed or taken in snares, or with the hands of the hunters. The number of animals taken or destroyed on these occasions was so great, that the first Spanish viceroy of Mexico would not believe it without making the experiment himself. The place chosen for his hunting-match was a great plain in the country of the Otomies, lying between the villages of Xilotepec and S. Giovanni del Rio; the Indians being ordered to proceed according to their usual customs in the times of their paganism. The viceroy, attended by a vast retinue of Spaniards, repaired to the place appointed, where accommodations were prepared for them in houses of wood erected for the purpose. A circle of more than 15 miles was formed by 11,000 Otomies, who started such a quantity of game on the plain, that the viceroy was quite astonished, and commanded the greater part of them to be set at liberty, which was accordingly done. The number retained, however, was still incredibly great, were it not attested by a witness of the highest credit. On this occasion upwards of 600 deer and wild goats, 100 cajotes, with a surprising number of hares, rabbits, and other smaller animals. The plain still retains the Spanish name *Cazadero*, which signifies the "place of the chase."

The Mexicans, besides the usual methods of the chase, had particular contrivances for catching certain animals. Thus, to catch young asses, they made a small fire in the woods, putting among the burning coals a particular kind of stone named *cacalottl* "raven or black stone," which bursts with a loud noise when heated. The fire was covered with earth, and a little maize laid around it. The asses quickly assembled with their young, in order to feed upon the maize; but while they were thus employed, the stone burst, and

scared away the old ones by the explosion, while the young ones, unable to fly, were carried off by the hunters. Serpents were taken even by the hands, seizing them intrepidly by the neck with one hand, and sewing up their mouths with the other. This method is still practised. They showed the greatest dexterity in tracing the steps of wild beasts, even when an European could not have discerned the smallest print of their feet. The Indian method, however, was by observing sometimes the herbs or leaves broken down by their feet; sometimes the drops of blood which fell from them when wounded. It is said that some of the American Indians show still greater dexterity in discovering the tracks of their enemies, which to an European would be altogether imperceptible.

Hunting was a favourite diversion of the great and bloody conqueror Jenghiz Khan, if indeed we can apply the word *diversion* to a monster whose mind was set upon the destruction of his own species, and who only endeavoured to make the murder of brutes subservient to that of men, by keeping his soldiers in a kind of warfare with the beasts when they had no human enemies to contend with. His expeditions were conducted on a plan similar to that of the Mexicans already mentioned; and were no doubt attended with still greater success, as his numerous army could inclose a much greater space than all the Indians whom the Spanish viceroy could muster. The East Indian princes still show the same inclination to the chase; and Mr Blane, who attended the hunting excursions of Asoph Ul Dowlah visir of the Mogul empire and nabob of Oude in 1785 and 1786, gives the following account of the method practised on this occasion.

The time chosen for the hunting party is about the beginning of December; and the diversion is continued till the heats, which commence about the beginning of March, oblige them to stop. During this time a circuit of between 400 and 600 miles is generally made; the hunters bending their course towards the skirts of the northern mountains, where the country is wild and uncultivated. The visir takes along with him not only his court and seraglio, but a great part of the inhabitants of his capital. His immediate attendants may amount to about 2000; but besides these he is also followed by 500 or 600 horse, and several battalions of regular sepoy with their field pieces. Four or five hundred elephants are also carried along with him; of which some are used for riding, others for fighting, and some for clearing the jungles and forests of the game. About as many sumpter horses of the beautiful Persian and Arabian breeds are carried along with him. A great many wheel carriages drawn by bullocks likewise attend, which are used chiefly for the convenience of the women; sometimes also he has an English chaise or two, and sometimes a chariot; but all these as well as the horses are merely for show, the visir himself never using any other conveyance than an elephant, or sometimes when fatigued or indisposed a palanquin. The animals used in the sport are principally grey-hounds, of which there may be about 300; he has also about 200 hawks, and a few trained leopards for hunting deer. There are a great number of marksmen, whose profession it is to shoot deer; with many fowlers, who provide game; as none of the natives of India know how to shoot game with small

Hunting. Small shot, or to hunt with slow hounds. A vast number of matchlocks are carried along with the company with many English pieces of various kinds, 40 or 50 pairs of pistols, bows and arrows, besides swords, daggers, and sabres without number. There are also nets of various kinds, some for quail, and others very large, for fishing, which are carried along with him upon elephants, attended by fishermen, so as always to be ready for throwing into any river or lake that may be met with. Every article that can contribute to luxury or pleasure is likewise carried along with the army. A great many carts are loaded with the Ganges water, and even ice is transported for cooling the drink. The fruits of the season and fresh vegetables are daily sent to him from his gardens by bearers stationed at the distance of every ten miles; by which means each article is conveyed day or night at the rate of four miles an hour. Besides the animals already mentioned, there are also fighting antelopes, buffaloes, and rams in great numbers; also several hundred pigeons, some fighting cocks, with a vast variety of parrots, nightingales, &c.

To complete the magnificence or extravagance of this expedition, there is always a large bazar, or moving town, which attends the camp; consisting of shopkeepers and artificers of all kinds, money-changers, dancing women; so that, on the most moderate calculation, the whole number of people in his camp cannot be computed at fewer than 20,000. The nabob himself, and all the gentlemen of his camp, are provided with double sets of tents and equipage, which are always sent on the day before to the place to which he intends to go; and this is generally eight or ten miles in whatever direction most game is expected; so that by the time he has finished his sport in the morning, he finds his whole camp ready pitched for his reception.

The nabob, with the attending gentlemen, proceed in a regular moving court or durbar, and thus they keep conversing together and looking out for game. A great many foxes, hares, jackals, and sometimes deer, are picked up by the dogs as they pass along: the hawks are carried immediately before the elephants, and let fly at whatever game is sprung for them, which is generally partridges, bustards, quails, and different kinds of herons; these last affording excellent sport with the falcons or sharp-winged hawks. Wild boars are sometimes started, and either shot or run down by the dogs and horsemen. Hunting the tyger, however, is looked upon as the principal diversion, and the discovery of one of these animals is accounted a matter of great joy. The cover in which the tyger is found is commonly long grass, or reeds of such an height as frequently to reach above the elephants; and it is difficult to find him in such a place, as he commonly endeavours either to steal off, or lies so close to the ground that he cannot be roused till the elephants are almost upon him. He then roars and skulks away, but is shot at as soon as he can be seen; it being generally contrived that the nabob shall have the compliment of firing first. If he be not disabled, the tyger continues to skulk along, followed by the line of elephants; the nabob and others shooting at him as often as he can be seen till he falls. The elephants themselves are very much afraid of this terrible animal, and discover their apprehensions by shrieking and roaring

as soon as they begin to smell him or hear him growl; generally attempting to turn away from the place where he is. When the tyger can be traced to a particular spot, the elephants are disposed of in a circle round him; in which case he will at last make a desperate attack, springing upon the elephant that is nearest, and attempting to tear him with his teeth or claws. Some, but very few, of the elephants, can be brought to attack the tyger; and this they do by curling up their trunks under their mouths, and then attempting to toss, or otherwise destroy him with their tusks, or to crush him with their feet or knees. It is considered as good sport to kill one tyger in a day; though sometimes, when a female is met with her young ones, two or three will be killed.

The other objects of pursuit in these excursions are wild elephants, buffaloes, and rhinoceroses. Our author was present at the hunting of a wild elephant of vast size and strength. An attempt was first made to take him alive by surrounding him with tame elephants, while he was kept at bay by crackers and other fire-works; but he constantly eluded every effort of this kind. Sometimes the drivers of the tame elephants got so near him, that they threw strong ropes over his head, and endeavoured to detain him by fastening them around trees; but he constantly snapped the ropes like pack-threads, and pursued his way to the forest. Some of the strongest and most furious of the fighting elephants were then brought up to engage him; but he attacked them with such fury that they were all obliged to desist. In his struggle with one of them he broke one of his tusks, and the broken piece, which was upwards of two inches in diameter, of solid ivory, flew up into the air several yards above their heads. Orders were now given to kill him, as it appeared impossible to take him alive; but even this was not accomplished without the greatest difficulty. He twice turned and attacked the party who pursued him; and in one of these attacks struck the elephant obliquely on which the prince rode, threw him upon his side, but then passed on without offering farther injury. At last he fell dead, after having received as was supposed upwards of 1000 balls into his body.

Notwithstanding the general passion among most nations for hunting, however, it has by many been deemed an exercise inconsistent with the principles of humanity. The late king of Prussia expressed himself on this subject in the following manner. "The chase is one of the most sensual of pleasures, by which the powers of the body are strongly exerted, but those of the mind remain unemployed. It is an exercise which makes the limbs strong, active, and pliable; but leaves the head without improvement. It consists in a violent desire in the pursuit, and the indulgence of a cruel pleasure in the death, of the game. I am convinced, that man is more cruel and savage than any beast of prey: We exercise the dominion given us over these our fellow-creatures in the most tyrannical manner. If we pretend to any superiority over the beasts, it ought certainly to consist in reason; but we commonly find that the most passionate lovers of the chase renounce this privilege, and converse only with their dogs, horses, and other irrational animals. This renders them wild and unfeeling; and it is probable that they cannot be very merciful to the human species.

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For a man who can in cold blood torture a poor innocent animal, cannot feel much compassion for the distresses of his own species. And, besides, can the chase be a proper employment for a thinking mind?"

The arguments used by his majesty against hunting seem indeed to be much confirmed by considering the various nations who have most addicted themselves to it. These, as must be seen from what has already been said, were all barbarous; and it is remarkable, that Nimrod, the first great hunter of whom we have any account, was likewise the first who oppressed and enslaved his own species. As nations advanced in civilization, it always became necessary to restrain by law the inclination of the people for hunting. This was done by the wise legislator Solon, lest the Athenians should neglect the mechanic arts on its account. The Lacedemonians, on the contrary, indulged themselves in this diversion without controul; but they were barbarians, and most cruelly oppressed those whom they had in their power, as is evident from their treatment of the Helots. The like may be said of the Egyptians, Persians, and Scythians; all of whom delighted in war, and oppressed their own species. The Romans, on the other hand, who were somewhat more civilized, were less addicted to hunting. Even they, however, were exceedingly barbarous, and found it necessary to make death and slaughter familiar to their citizens from their infancy. Hence their diversions of the amphitheatre and circus, where the hunting of wild beasts was shown in the most magnificent and cruel manner; not to mention their still more cruel sports of gladiators, &c.

In two cases only does it seem possible to reconcile the practice of hunting with humanity; viz. either when an uncultivated country is over-run with noxious animals; or when it is necessary to kill wild animals for food. In the former case, the noxious animals are killed because they themselves would do so if they were allowed to live; but if we kill even a lion or a tyger merely for the pleasure of killing him, we are undoubtedly chargeable with cruelty. In like manner, our modern fox-hunters expressly kill foxes, not in order to destroy the breed of these noxious animals, but for the pleasure of seeing them exert all their power and cunning to save their lives, and then beholding them torn in pieces after being half dead with fatigue. This refinement in cruelty, it seems, is their favourite diversion; and it is accounted a crime for any person to destroy these animals in self-defence, as appears from the following passage in Mr Beckford's treatise on hunting. "Besides the digging of foxes, by which method many young ones are taken and old ones destroyed, traps, &c. are too often fatal to them. Farmers for their lambs (which, by the bye, few foxes ever kill), gentlemen for their game, and old women for their poultry, are their inveterate enemies. In the country where I live, most of the gentlemen are sportsmen; and even those who are not, show every kind of attention to those who are. I am sorry it is otherwise with you; and that your old gouty neighbour should destroy your foxes, I must own concerns me. I know some gentlemen, who, when a neighbour had destroyed all their foxes, and thereby prevented them from pursuing a favourite amusement, loaded a cart with spaniels, and went all together and destroyed his pheasants. I think they might have called this very pro-

perly *lex talionis*: and it had the desired effect; for as the gentleman did not think it prudent to fight them all, he took the wiser method, he made peace with them. He gave an order that no more foxes should be destroyed, and they never afterwards killed any of his pheasants."

In the first volume of the Manchester Transactions we have a dissertation upon the diversions of hunting, shooting, &c. as compatible with the principles of humanity. One argument used by the author is, that death is no positive evil to brutes. "It would perhaps (says he) be too hasty an assertion to affirm, that death to brutes is no evil. We are not competent to determine whether their existence, like our own, may not extend to some future mode of being, or whether the present limited sphere is all in which they are interested. On so speculative a question little can be advanced with precision; nor is it necessary for the investigation of the subject before us. If we may be allowed to reason from what we know, it may be safely conjectured, that death to brutes is no positive evil: we have no reason to believe they are endowed with foresight; and therefore, even admitting that with them the pleasures of life exceed its pains and cares, in terminating their existence, they only suffer a privation of pleasure."

On this extraordinary piece of reasoning we may observe, that it would hold much more against the human species than against the brutes. There are few amongst us willing to allow that the pleasures we enjoy are equivalent to our pains and cares: death therefore must be to us a relief from pain and misery, while to the brutes it is a privation of pleasure. Hence, if it be no positive evil for a brute to suffer death, to a man it must be a positive good: add to which, that a man lives in hope of an endless and glorious life, while a brute has no such hope; so that, if to kill a brute, on our author's principles be no cruelty, to kill a man must be an act of tenderness and mercy!

Another argument, no less inconclusive, is our author's supposing that death from disease is much more to be dreaded in a brute than a violent death. Were brutes naturally in as helpless a state as man, no doubt their want of support from society in cases where they are attacked by sickness, would be very deplorable; but it must be considered that the parallel betwixt the two species is in this respect by no means fair. A brute has every where its food at hand, and is naturally capable of resisting the inclemencies of the weather; but man has not only a natural inability to procure food for himself in the way that the brutes do, but is, besides, very tender and incapable of resisting the inclemency of the air. Hence, a man unassisted by society must very soon perish; and, no doubt, it would be much more merciful for people to kill one another at once, than to deprive them of the benefits of society, as is too frequently done in various ways needless to be mentioned at present. A brute, however, has nothing to fear. As long as its stomach can receive food, nature offers an abundant supply. One that feeds upon grass has it always within reach; and a carnivorous one will content itself with worms or insects, which, as long as it is able to crawl it can still make a shift to provide; but so totally helpless is man when left to himself in a state of weakness, that many
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Hunting. barbarous nations have looked upon the killing of their old and infirm people to be an act of mercy.

Equally unhappy is our author in his other arguments, that the quick transition from a state of perfect health to death mitigates the severity. The transition is not quick. The sportsmen estimate their diversion by the length of the chase; and during all that time the creature must be under the strongest agonies of terror; and what person of humanity is there who must not feel for an animal in this situation? All this is assented to by our author, who says, "Hard is the heart who does not commiserate the sufferer." Is not this an acknowledgment on his part, that before a person can become a thorough sportsman, he must harden his heart, and stifle those amiable sensations of compassion, which on all occasions ought to be encouraged towards every creature, unless in cases of necessity. But in the present case no necessity is or can be pretended. If a gentleman chooses to regale himself with venison of any kind, he may breed the animals for the purpose. We call Domitian cruel, because he took pleasure in catching flies, and stabbing them with a bodkin. A butcher is excluded from sitting on a jury on account of his being accustomed to fights which are deemed inhuman; but whether it is more inhuman to knock down an ox at once with an ax, or to tear him in pieces with dogs (for they would accomplish the purpose if properly trained), must be left to the sportsmen to determine.

Lastly, the great argument in favour of hunting, that it contributes to the health of the body and exhilaration of the spirits, seems equally fallacious with the rest. It cannot be proved that hunters are more healthy or long lived than other people. That exercise will contribute to the preservation of health, as well as to the exhilaration of the mind, is undoubted; but many other kinds of exercise will do this as well as hunting. A man may ride from morning to night, and amuse himself with viewing and making remarks on the country through which he passes; and surely there is no person will say that this exercise will tend to impair his health or sink his spirits. A man may amuse and exercise himself not only with pleasure, but profit also, in many different ways, and yet not accustom himself to behold the death of animals with indifference. It is this that constitutes the cruelty of hunting; because we thus wilfully extinguish in part that principle naturally implanted in our nature, which if totally eradicated would set us not only on a level with the most ferocious wild beasts, but perhaps considerably below them; and it must always be remembered, that whatever pleasure terminates in death is cruel, let us use as many palliatives as we please to hide that cruelty from the eyes of others, or even from our own.

The gentlemen and masters of the sport have invented a set of terms which may be called the *hunting-language*. The principal are those which follow:

1. For beasts as they are in company.—They say, a *herd* of harts, and all manner of deer. A *bey* of roes. A *founder* of swine. A *roust* of wolves. A *riches* of martens. A *brace* or *leash* of bucks, foxes, or hares. A *couple* of rabbits or coney.

2. For their lodging.—A hart is said to *harbour*.

A buck *lodges*. A roe *beds*. A hare *seats* or *forms*. A coney *sits*. A fox *kennels*. A marten *trees*. An otter *watches*. A badger *earths*. A boar *couches*.—Hence, to express their dislodging, they say, *Unharbour* the hart. *Rouse* the buck. *Start* the hare. *Bolt* the coney. *Unkennel* the fox. *Untree* the marten. *Vent* the otter. *Dig* the badger. *Rear* the boar.

3. For their noise at rutting time.—A hart *bellets*. A buck *growns* or *troats*. A roe *bellows*. A hare *beats* or *taps*. An otter *whines*. A boar *freams*. A fox *barks*. A badger *shrieks*. A wolf *howls*. A goat *rattles*.

4. For their copulation.—A hart or buck goes to *rut*. A roe goes to *tourn*. A boar goes to *brim*. A hare or coney goes to *buck*. A fox goes to *clickitting*. A wolf goes to *match* or *make*. An otter *bunteth* for his kind.

5. For the footing and treading.—Of a hart, we say the *slot*. Of a buck, and all fallow-deer, the *view*. Of all deer, if on the grass and scarce visible, the *foiling*. Of a fox, the *print*; and of other the like vermin, the *footing*. Of an otter, the *marks*. Of a boar, the *track*. The hare, when in open field, is said to *fore*; when she winds about to deceive the hounds, she *doubles*; when she beats on the hard highway, and her footing comes to be perceived, she *pricketh*: in snow, it is called the *trace* of the hare.

6. The tail of a hart, buck, or other deer, is called the *single*. That of a boar, the *wreath*. Of a fox, the *brush* or *drag*; and the tip at the end, the *chape*. Of a wolf, the *stern*. Of a hare and coney, the *scut*.

7. The ordure or excrement of a hart and all deer, is called *fewmets* or *fewmishng*. Of a hare, *crotils* or *crotifng*. Of a boar, *lesses*. Of a fox, the *billiting*; and of other the like vermin, the *fuants*. Of an otter, the *spraints*.

8. As to the attire of deer, or parts thereof, those of a stag, if perfect, are the *bur*, the *pearls*, the little *knobs* on it, the *beam*, the *gutters*, the *antler*, the *sur-antler*, *royal*, *sur-royal*, and all at top the *croches*. Of the buck, the *bur*, *beam*, *brow-antler*, *black-antler*, *advancer*, *palm*, and *spellers*. If the *croches* grow in the form of a man's hand, it is called a *palmed head*. Heads bearing not above three or four, and the *croches* placed aloft, all of one height, are called *crowned heads*. Heads having double *croches*, are called *forked heads*, because the *croches* are planted on the top of the *beam* like forks.

9. They say, a *litter* of cubs, a *nest* of rabbits, a squirrel's *dray*.

10. The terms used in respect of the dogs, &c. are as follow.—Of gre-hounds, two make a *brace*; of hounds, a *couple*. Of gre-hounds, three make a *leash*; of hounds, a *couple* and *half*.—They say, *let slip* a gre-hound; and, *cast off* a hound. The string wherein a gre-hound is led, is called a *leash*; and that of a hound, a *lyome*. The gre-hound has his *collar*, and the hound his *couples*. We say a *kennel* of hounds, and a *pack* of beagles.

HUNTING, as practised among us, is chiefly performed with dogs; of which we have various kinds, accommodated to the various kinds of game, as *hounds*, *gre-hounds*, *blood-hounds*, *terriers*, &c. See CANIS, HOUND, &c.

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In the kennels or packs they generally rank them under the heads of *enterers*, *drivers*, *flyers*, *tyers*, &c.

On some occasions, nets, spears, and instruments for digging the ground, are also required: nor is the hunting-horn to be omitted.

The usual chases among us are, the *hart*, *buck*, *roe*, *hare*, *fox*, *badger*, and *otter*.—We shall here give something of what relates to each thereof: first premising an explanation of some general terms and phrases, more immediately used in the progress of the sport itself; what belongs to the several sorts of game in particular being reserved for the respective articles.

When the hounds, then, being cast off, and finding the scent of some game, begin to open and cry; they are said to *challenge*. When they are too busy ere the scent be good, they are said to *babble*. When too busy where the scent is good, to *barwl*. When they run it endwise orderly, holding in together merrily, and making it good, they are said to be in *full cry*. When they run along without opening at all, it is called *running mute*.

When spaniels open in the string, or a gre-hound in the course, they are said to *lapse*.

When beagles bark and cry at their prey, they are said to *yearn*.

When the dogs hit the scent the contrary way, they are said to *draw amiss*.

When they take fresh scent, and quit the former chase for a new one, it is called *hunting change*.

When they *hunt* the game by the heel or track, they are said to *hunt counter*.

When the chase goes off, and returns again, traversing the same ground, it is called *hunting the foil*.

When the dogs run at a whole herd of deer, instead of a single one, it is called *running riot*.

Dogs set in readiness where the game is expected to come by, and cast off after the other hounds are passed, are called a *relay*. If they be cast off ere the other dogs be come up, it is called *vauntlay*.

When, finding where the chase has been, they make a proffer to enter, but return, it is called a *blemish*.

A lesson on the horn to encourage the hounds, is named a *call*, or a *recheat*. That blown at the death of a deer, is called the *mort*. The part belonging to the dogs of any chase they have killed, is the *reward*. They say, *take off* a deer's skin; *strip* or *case* a hare, fox, and all sorts of vermin; which is done by beginning at the snout, and turning the skin over the ears down to the tail.

HUNTING is practised in a different manner, and with different apparatus, according to the nature of the beasts which are hunted, a description of whom may be found under their respective articles, *infra*.

With regard to the seasons, that for hart and buck-hunting begins a fortnight after midsummer, and lasts till Holy-rod day; that for the hind and doe, begins on Holy-rod day, and lasts till Candlemas; that for fox-hunting begins at Christmas, and holds till Lady-day; that for roe hunting begins at Michaelmas, and ends at Christmas; hare-hunting commences at Michaelmas, and lasts till the end of February; and where the wolf and bore are hunted, the season for each begins at Christmas, the first ending at Lady-day, and the latter at the Purification.

When the sportsmen have provided themselves with

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nets, spears, and a hunting-horn to call the dogs together, and likewise with instruments for digging the ground, the following directions will be of use to them in the pursuit of each sort of game.

Badger-HUNTING. In doing this, you must seek the earths and burrows where he lies, and in a clear moonshine night go and stop all the burrows, except one or two, and therein place some sacks, fastened with drawing strings, which may shut him in as soon as he straineth the bag. Some use no more than to set a hoop in the mouth of the sack, and so put it into the hole; and as soon as the badger is in the sack and straineth it, the sack slippeth off the hoop and follows him to the earth, so he lies tumbling therein till he is taken. These sacks or bags being thus set, cast off the hounds, beating about all the woods, coppices, hedges, and tufts, round about, for the compass of a mile or two; and what badgers are abroad, being alarmed by the hounds, will soon betake themselves to their burrows; and, observe that he who is placed to watch the sacks, must stand close and upon a clear wind; otherwise the badger will discover him, and will immediately fly some other way into his burrow. But if the hounds can encounter him before he can take his sanctuary, he will then stand at a bay like a boar, and make good sport, grievously biting and clawing the dogs, for the manner of their fighting is lying on their backs, using both teeth and nails; and by blowing up their skins defend themselves against all bites of the dogs, and blows of the men upon their noses. And for the better preservation of your dogs, it is good to put broad collars about their necks made of grey skins.

When the badger perceives the terriers to begin to yearn him in his burrow, he will stop the hole betwixt him and the terriers, and if they still continue baying, he will remove his couch into another chamber or part of the burrow, and so from one to another, barricading the way before them, as they retreat, until they can go no further. If you intend to dig the badger out of his burrow, you must be provided with the same tools as for digging out a fox; and besides, you should have a pail of water to refresh the terriers, when they come out of the earth to take breath and cool themselves. It will also be necessary to put collars of bells about the necks of your terriers, which making a noise may cause the badger to bolt out. The tools used for digging out of the badger, being troublesome to be carried on mens backs, may be brought in a cart. In digging, you must consider the situation of the ground, by which you may judge where the chief angles are; for else, instead of advancing the work, you will hinder it. In this order you may besiege them in their holds, or castles; and may break their platforms, parapets, casemets, and work to them with mines and countermines until you have overcome them.

Having taken a live and lusty badger, if you would make sport, carry him home in a sack and turn him out in your court-yard, or some other inclosed place, and there let him be hunted and worried to death by your hounds.

There are the following profits and advantages which accrue by killing this animal. Their flesh, blood, and greafe, though they are not good food, yet are very useful for physicians and apothecaries for oils, ointments,

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Boar-HUNTING. See BOAR.

Buck-HUNTING. Here the same hounds and methods are used as in running the stag; and, indeed, he that can hunt a hart or stag well, will not hunt a buck ill.

In order to facilitate the chase, the game-keeper commonly selects a fat buck out of the herd, which he shoots in order to maim him, and then he is run down by the hounds.

As to the method of hunting the buck. The company generally go out very early for the benefit of the morning. Sometimes they have a deer ready lodged; if not, the coverts are drawn till one is roused: or sometimes in a park a deer is pitched upon, and forced from the herd, then more hounds are laid on to run the chase. If you come to be at a fault, the old staunch hounds are only to be relied upon till you recover him again: if he be sunk, and the hounds thrust him up, it is called an *imprime*, and the company all sound a recheat; when he is run down, every one strives to get in to prevent his being torn by the hounds, fallow deer seldom or never standing at bay.

He that first gets in, cries hoo-up, to give notice that he is down, and blows a death. When the company are all come in, they paunch him, and reward the hounds; and generally the chief person of quality amongst them *takes say*, that is, cuts his belly open, to see how fat he is. When this is done, every one has a chop at his neck; and the head being cut off, is shewed to the hounds, to encourage them to run only at male deer, which they see by the horns, and to teach them to bite only at the head: then the company all standing in a ring, one blows a single death; which being done, all blow a double recheat, and so conclude the chase with a general halloo of hoo-up, and depart the field to their several homes, or to the place of meeting; and the huntsman, or some other, hath the deer cast cross the buttocks of his horse, and so carries him home.

Fox-HUNTING makes a very pleasant exercise, and is either above or below ground.

I. *Above-ground.* To hunt a fox with hounds, you must draw about groves, thickets, and bushes near villages. When you find one, it will be necessary to stop up his earth the night before you design to hunt, and that about midnight; at which time he is gone out to prey: this may be done by laying two white sticks across in his way, which he will imagine to be some gin or trap laid for him; or else they may be stopped up with black thorns and earth mixed together.

Mr Beckford is of opinion that for fox-hunting the pack should consist of 25 couple. The hour most favourable for the diversion is an early one; and he thinks that the hounds should be at the cover at sun-rising. The huntsman should then throw in his bounds as quietly as he can, and let the two whippers-in keep wide of him on either hand; so that a single hound may not escape them; let them be attentive to his halloo, and let the sportsmen be ready to encourage or rate as that directs. The fox ought on no account

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to be hallooed too soon, as in that case he would most certainly turn back again, and spoil all the sport.— Two things our author particularly recommends, viz. the making all the hounds steady, and making them all draw. “Many huntsmen (says he) are fond of having them at their horse’s heels; but they never can get so well or so soon together as when they spread the cover; besides, I have often known, when there have been only a few finders, that they have found their fox gone down the wind, and been heard of no more that day. Much depends upon the first finding of your fox; for I look upon a fox well found to be half killed. I think people are generally in too great a hurry on this occasion. There are but few instances where sportsmen are not too noisy, and too fond of encouraging their hounds, which seldom do their business so well as when little is said to them. The huntsman ought certainly to begin with his foremost hounds; and I should wish him to keep as close to them as he conveniently can; nor can any harm arise from it, unless he should not have common sense. No hounds can then slip down the wind and get out of his hearing; he will also see how far they carry the scent, a necessary requisite; for without it he never can make a cast with any certainty.—You will find it not less necessary for your huntsman to be active in pressing his hounds forward when the scent is good, than to be prudent in not hurrying them beyond it when it is bad. It is his business to be ready at all times to lend them that assistance which they so frequently need, and which when they are first at a fault is then most critical. A fox-hound at that time will exert himself most; he afterwards cools and becomes more indifferent about his game. Those huntsmen who do not get forward enough to take advantage of this eagerness and impetuosity, and direct it properly, seldom know enough of hunting to be of much use to them afterwards. Though a huntsman cannot be too fond of hunting, a whipper-in easily may. His business will seldom allow him to be forward enough with the hounds to see much of the sport. His only thought therefore should be to keep the hounds together, and to contribute as much as he can to the killing of the fox: keeping the hounds together is the surest means to make them steady. When left to themselves they seldom refuse any blood they can get; they become conceited; learn to tie upon the scent; and besides this they frequently get a trick of hunting by themselves, and are seldom good for much afterwards.

“Every country is soon known; and nine foxes out of ten, with the wind in the same quarter, will follow the same track. It is easy therefore for the whipper-in to cut short, and catch the hounds again. With a high scent you cannot push on hounds too much. Screams keep the fox forward, at the same time that they keep the hounds together, or let in the tail-hounds: they also enliven the sport; and, if discreetly used, are always of service; but in cover they should be given with the greatest caution. Halloos seldom do any hurt when you are running up the wind, for then none but the tail-hounds can hear you: when you are running down the wind, you should halloo no more than may be necessary to bring the tail-hounds forward; for a hound that knows his business seldom wants encouragement when he is upon a scent.—Most

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Hunting. fox-hunters wish to see their hounds run in a good style. I confess I myself am one of those; I hate to see a string of them; nor can I bear to see them creep where they can leap. A pack of harriers, if they have time, may kill a fox, but I defy them to kill him in the style in which he ought to be killed; they must hunt him down. If you intend to tire him out, you must expect to be tired also yourself; I never wish a chase to be less than one hour, or to exceed two: it is sufficiently long if properly followed: it will seldom be longer unless there be a fault somewhere; either in the day, the huntsman, or the hounds.

“ Changing from the hunted fox to a fresh one is as bad an accident as can happen to a pack of fox-hounds, and requires all the ingenuity and observation that man is capable of to guard against it. Could a fox-hound distinguish a hunted fox as the deer-hound does the deer that is blown, fox-hunting would then be perfect. A huntsman should always listen to his hounds while they are running in cover; he should be particularly attentive to the headmost hounds, and he should be constantly on his guard against a skirter; for if there be two scents, he must be wrong. Generally speaking, the best scent is least likely to be that of the hunted fox: and as a fox seldom suffers hounds to run up to him as long as he is able to prevent it; so, nine times out of ten, when foxes are hallooed early in the day, they are all fresh foxes. The hounds most likely to be right are the hard running line-hunting ones; or such as the huntsman knows had the lead before there arose any doubt of changing. With regard to the fox, if he break over an open country, it is no sign that he is hard run; for they seldom at any time will do that unless they are a great way before the hounds. Also if he run up the wind;—they seldom or never do that when they have been long hunted and grow weak; and when they run their foil, that also may direct him. All this requires a good ear and nice observation; and indeed in that consists the chief excellence of a huntsman.

“ When the hounds divide and are in two parts, the whipper-in, in stopping, must attend to the huntsman and wait for his halloo, before he attempts to stop either: for want of proper management in this respect I have known the hounds stopped at both places, and both foxes lost. If they have many scents, and it is quite uncertain which is the hunted fox, let him stop those that are farthest down the wind; as they can hear the others, and will reach them soonest: in such a case there will be little use in stopping those that are up the wind. When hounds are at a check, let every one be silent and stand still. Whippers-in are frequently at this time coming on with the tail-hounds. They should never halloo to them when the hounds are at fault; the least thing does them harm at such a time, but a halloo more than any other. The huntsman, at a check, had better let his hounds alone; or content himself with holding them forward, without taking them off their noses.—Should they be at a fault, after having made their own cast (which the huntsman should always first encourage them to do), it is then his business to assist them further; but except in some particular instances, I never approve of their being cast as long as they are inclined to hunt. The first cast I bid my huntsman make is generally a regular one, not choosing to rely entirely on his judgment: if that should not succeed, he is then at liberty to follow his own opinion,

Hunting. and proceed as observation or genius may direct. When such a cast is made, I like to see some mark of good sense and meaning in it; whether down the wind, or towards some likely cover or strong earth. However, as it is at best uncertain, I always wish to see a regular cast before I see a knowing one; which, as a last resource, should not be called forth till it be wanted: The letting hounds alone is but a negative goodness in a huntsman; whereas it is true this last shows real genius; and to be perfect, it must be born with him. There is a fault, however, which a knowing huntsman is too apt to commit: he will find a fresh fox, and then claim the merit of having recovered the hunted one. It is always dangerous to throw hounds into a cover to retrieve a lost scent; and unless they hit him in, is not to be depended on.

“ Gentlemen, when hounds are at fault, are too apt themselves to prolong it. They should always stop their horses some distance behind the hounds; and if it be possible to remain silent, this is the time to be so. They should be careful not to ride before the hounds or over the scent; nor should they ever meet a hound in the face unless with a design to stop him. Should you at any time be before the hounds, turn your horse's head the way they are going, get out of their track, and let them pass by you. In dry weather, and particularly in heathy countries, foxes will run the roads. If gentlemen at such times will ride close upon the hounds, they may drive them miles without any scent.—High mettled fox-hounds are seldom inclined to stop whilst horses are close at their heels. No one should ever ride in a direction which if persisted in would carry him amongst the hounds, unless he be at a great distance behind them.

“ The first moment that hounds are at fault is a critical one for the sport-people, who should then be very attentive. Those who look forward may perhaps see the fox; or the running of sheep, or the pursuit of crows, may give them some tidings of him. Those who listen may sometimes take a hint which way he is gone from the chattering of a magpie; or perhaps be at a certainty from a distant halloo: nothing that can give any intelligence at such a time ought to be neglected. Gentlemen are too apt to ride all together: were they to spread more, they might sometimes be of service; particularly those who, from a knowledge of the sport, keep down the wind: it would then be difficult for either hounds or fox to escape their observation.—You should, however, be cautious how you go to a halloo. The halloo itself must in a great measure direct you; and though it afford no certain rule, yet you may frequently guess whether it can be depended upon or not. At the sowing-time, when boys are keeping off the birds, you will sometimes be deceived by their halloo; so that it is best, when you are in doubt, to send a whipper-in to know the certainty of the matter.”

Hounds ought not to be cast as long as they are able to hunt. It is a common, though not a very just idea, that a hunted fox never stops; but our author informs us that he has known them stop even in wheel-ruts in the middle of a down, and get up in the middle of the hounds. The greatest danger of losing a fox is at the first finding him, and when he is sinking; at both which times he frequently will run short, and the eagerness of the hounds will frequently carry them beyond the scent. When a fox is first found, every one ought

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ought to keep behind the hounds till they are well settled to the scent; and when the hounds are catching him, our author wishes them to be as silent as possible; and likewise to eat him eagerly after he is caught. In some places they have a method of *trecing* him; that is, throwing him across the branch of a tree, and suffering the hounds to bay at him for some minutes before he is thrown among them; the intention of which is to make them more eager, and to let in the tail-hounds; during this interval also they recover their wind, and are apt to eat him more readily. Our author, however, advises not to keep him too long, as he supposes that the hounds have not any appetite to eat him longer than while they are angry with him.

2. *Under ground.* In case a fox does so far escape as to earth, countrymen must be got together with shovels, spades, mattocks, pickaxes, &c. to dig him out, if they think the earth not too great. They make their earths as near as they can in ground that is hard to dig, as in clay, stony ground, or amongst the roots of trees; and their earths have commonly but one hole, and that is straight a long way in before you come at their couch. Sometimes craftily they take possession of a badger's old burrow, which hath a variety of chambers, holes, and angles.

Now to facilitate this way of hunting the fox, the huntsman must be provided with one or two terriers to put into the earth after him, that is, to fix him into an angle; for the earth often consists of many angles: the use of the terrier is to know where he lies; for as soon as he finds him, he continues baying or barking, so that which way the noise is heard that way dig to him. Your terriers must be garnished with bells hung in collars, to make the fox bolt the sooner; besides, the collars will be some small defence to the terriers.

The instruments to dig withal are these: a sharp-pointed spade, which serves to begin the trench where the ground is hardest and broader tools will not so well enter; the round hollowed spade, which is useful to dig among roots, having very sharp edges; the broad flat spade to dig withal, when the trench has been pretty well opened, and the ground softer; mattocks and pickaxes to dig in hard ground, where a spade will do but little service; the coal-rake to cleanse the hole, and to keep it from stopping up; clamps, wherewith you may take either fox or badger out alive to make sport with afterwards. And it would be very convenient to have a pail of water to refresh your terriers with, after they are come out of the earth to take breath.

Hare-HUNTING. As, of all chases, the hare makes the greatest pastime, so it gives no little pleasure to see the craft of this small animal for her self-preservation. If it be rainy, the hare usually takes to the high-ways; and if she come to the side of a young grove, or spring, she seldom enters, but squats down till the hounds have over-shot her; and then she will return the very way she came, for fear of the wet and dew that hangs on the boughs. In this case, the huntsman ought to stay an hundred paces before he comes to the wood-side, by which means he will perceive whether she return as aforesaid; which if she do, he must halloo in his hounds; and call them back; and that presently, that the hounds may not think it the counter she came first.

The next thing that is to be observed, is the place

where the hare sits, and upon what wind she makes her form, either upon the north or south wind: she will not willingly run into the wind, but run upon a-side, or down the wind; but if she form in the water, it is a sign she is foul and measles; if you hunt such a one, have a special regard all the day to the brook-sides; for there, and near plashees, she will make all her crossings, doublings, &c.

Some hares have been so crafty, that as soon as they have heard the sound of a horn, they would instantly start out of their form, though it was at the distance of a quarter of a mile, and go and swim in some pool, and rest upon some rush-bed in the midst of it; and would not stir from thence till they have heard the sound of the horn again, and then have started out again, swimming to land, and have stood up before the hounds four hours before they could kill them, swimming and using all subtilties and crossings in the water. Nay, such is the natural craft and subtilty of a hare, that sometimes after she has been hunted three hours, she will start a fresh hare, and squat in the same form. Others having been hunted a considerable time, will creep under the door of a sheep-cot, and hide themselves among the sheep; or, when they have been hard hunted, will run in among a flock of sheep, and will by no means be gotten out from among them till the hounds are coupled up, and the sheep driven into their pens. Some of them (and that seems somewhat strange) will take the ground like a coney, and that is called *going to the vault*. Some hares will go up one side of the hedge and come down the other, the thickness of the hedge being the only distance between the courses. A hare that has been sorely hunted, has got upon a quickset-hedge, and ran a good way upon the top thereof, and then leapt off upon the ground. And they will frequently betake themselves to furz bushes, and will leap from one to the other, whereby the hounds are frequently in default.

Having found where a hare hath relieved in some pasture or corn field, you must then consider the season of the year, and what weather it is: for if it be in the spring-time or summer, a hare will not then set in bushes, because they are frequently infested with pismires, snakes, and adders; but will set in corn-fields, and open places. In the winter-time, they set near towns and villages, in tufts of thorns and brambles, especially when the wind is northerly or southerly. According to the season and nature of the place where the hare is accustomed to sit, there beat with your hounds, and start her; which is much better sport than trailing of her from her relief to her form.

After the hare has been started and is on foot, then step in where you saw her pass, and halloo in your hounds, until they have all undertaken it and go on with it in full cry: then recheat to them with your horn, following fair and softly at first, making not too much noise either with horn or voice; for at the first, hounds are apt to overshoot the chace through too much heat. But when they have run the space of an hour, and you see the hounds are well in with it, and stick well upon it, then you may come in nearer with the hounds, because by that time their heat will be cooled, and they will hunt more soberly. But above all things, mark the first doubling, which must be your direction for the whole day; for all the doublings

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Hunting. that she shall make afterwards will be like the former; and according to the policies that you shall see her use, and the place where you hunt, you must make your compasses great or little, long or short, to help the defaults, always seeking the moistest and most commodious places for the hounds to scent in.

To conclude: Those who delight in hunting the hare must rise early, lest they be deprived of the scent of her foot-steps.

Hart or Stag HUNTING. Gesner, speaking of hart-hunting, observes, that this wild, deceitful, and subtle beast, frequently deceives its hunter by windings and turnings. Wherefore the prudent hunter must train his dogs with words of art, that he may be able to set them on and take them off again at pleasure.

First of all, he should encompass the beast in her own layer, and so unharbour her in the view of the dogs, that so they may never lose her slot or footing. Neither must he set upon every one, either of the herd or those that wander solitary alone, or a little one; but partly by sight, and partly by their footing and fumets, make a judgment of the game, and also observe the largeness of his layer.

The huntsman, having made these discoveries in order to the chace, takes off the couplings of the dogs; and some on horseback, others on foot, follow the cry, with the greatest art, observation, and speed; remembering and intercepting him in his subtle turnings and headings; with all agility leaping hedges, gates, pales, ditches; neither fearing thorns, down hills, nor woods, but mounting fresh horse if the first tire. Follow the largest head of the whole herd, which must be singled out of the chace; which the dogs perceiving, must follow; not following any other. The dogs are animated to the sport by the winding of horns, and the voices of the huntsmen. But sometimes the crafty beast sends forth his little squire to be sacrificed to the dogs and hunters, instead of himself, lying close the mean time. In this case, the huntsman must sound a retreat, break off the dogs, and take them in, that is, leam them again, until they be brought to the fairer game; which riseth with fear, yet still striveth by flight, until he be wearied and breathless. The nobles call the beast a *wife hart*, who, to avoid all his enemies, runneth into the greatest herds, and so brings a cloud of error on the dogs, to obstruct their farther pursuit; sometimes also bearing some of the herd into his footings, that so he may the more easily escape by amusing the dogs. Afterwards he betakes himself to his heels again, still running with the wind, not only for the sake of refreshment, but also because by that means he can the more easily bear the voice of his pursuers whether they be far from him or near to him. But at last being again discovered by the hunters and sagacious scent of the dogs, he flies into the herds of cattle, as cows, sheep, &c. leaping on a cow or ox, laying the foreparts of his body thereon, that so touching the earth only with his hinder feet, he may leave a very small or no scent at all behind for the hounds to discern. But their usual manner is, when they see themselves hard beset and every way intercepted, to make force at their enemy with their horns, who first comes upon him, unless they be prevented by spear or sword. When the beast is slain, the huntsman with his horn windeth the fall of the beast; and then the whole com-

Hunting. pany comes up, blowing their horns in triumph for such a conquest; among whom, the skilfullest opens the beast, and rewards the hounds with what properly belongs to them, for their future encouragement; for which purpose the huntsmen dip bread in the skin and blood of the beast to give to the hounds.

It is very dangerous to go in to a hart at bay; of which there are two sorts, one on land and the other in water. Now, if the hart be in a deep water, where you cannot well come at him, then couple up your dogs; for should they continue long in the water, it would endanger their submerging or foundering. In this case, get a boat, and swim to him, with dagger drawn, or else with rope that has a noose, and throw it over his horns: for if the water be so deep that the hart swims, there is no danger in approaching him; otherwise you must be very cautious.

As to the land-bay, if a hart be burnished, then you must consider the place; for if it be in a plain and open place, where there is no wood nor covert, it is dangerous and difficult to come in to him; but if he be on a hedge-side, or in a thicket, then, while the hart is staring on the hounds, you may come softly and covertly behind him, and cut his throat. If you miss your aim, and the hart turn head upon you, then take refuge at some tree; and when the hart is at bay, couple up your hounds; and when you see the hart turn head to fly, gallop in roundly to him, and kill him with your sword.

Directions at the Death of a Hart or Buck. The first ceremony, when the huntsman comes in to the death of a deer, is to cry "ware haunch," that the hounds may not break in to the deer; which being done, the next is the cutting his throat, and there bleeding the youngest hounds, that they may the better love a deer, and learn to leap at his throat: then the mort having been blown, and all the company come in, the best person who hath not taken say before, is to take up the knife that the keeper or huntsman is to lay across the belly of the deer, some holding by the fore legs, and the keeper or huntsman drawing down the pizzle, the person who takes say, is to draw the edge of the knife leisurely along the middle of the belly, beginning near the brisket, and drawing a little upon it, enough in the length and depth to discover how fat the deer is; then he that is to break up the deer, first slits the skin from the cutting of the throat downwards, making the arber, that so the ordure may not break forth, and then he paunches him, rewarding the hounds with it.

In the next place, he is to present the same person who took say, with a drawn hanger, to cut off the head of the deer. Which being done, and the hounds rewarded, the concluding ceremony is, if it be a stag, to blow a triple mort; and if a buck, a double one; and then all who have horns, blow a recheat in concert, and immediately a general whoop, whoop.

Otter-HUNTING is performed with dogs, and also with a sort of instruments called *otter-spears*; with which when they find themselves wounded, they make to land, and fight with the dogs, and that most furiously, as if they were sensible that cold water would annoy their green wounds.

There is indeed craft to be used in hunting them; but they may be caught in snares under water, and by river-sides: but great care must be taken, for they bite

Hunting. bite sorely and venomously; and if they happen to remain long in the snare, they will not fail to get themselves free by their teeth.

In hunting them, one man must be on one side of the river, and another on the other, both beating the banks with dogs; and the beast not being able to endure the water long, you will soon discover if there be an otter or not in that quarter; for he must come out to make his spraints, and in the night sometimes to feed on grafs and herbs.

If any of the hounds finds out an otter, then view the soft grounds and moist places, to find out which way he bent his head: if you cannot discover this by the marks, you may partly perceive it by the spraints; and then follow the hounds, and lodge him as a hart or deer. But if you do not find him quickly, you may imagine he is gone to couch somewhere farther off from the river; for sometimes they will go to feed a considerable way from the place of their rest, choosing rather to go up the river than down it. The persons that go a-hunting otters, must carry their spears, to watch his vents, that being the chief advantage; and if they perceive him swimming under water, they must endeavour to strike him with their spears, and if they miss, must pursue him with the hounds, which, if they be good and perfectly entered, will go chanting and trailing along by the river-side, and will beat every root of a tree, and osier-bed, and tuft of bulrushes; nay, they will sometimes take water, and bait the beast, like a spaniel, by which means he will hardly escape.

Roe-buck HUNTING is performed divers ways, and very easily in the woods.

When chased, they usually run against the wind, because the coolness of the air refreshes them in their course; therefore the huntsmen place their dogs with the wind: they usually, when hunted, first take a large ring, and afterwards hunt the hounds. They are also often taken by counterfeiting their voice, which a skilful huntsman knows how to do by means of a leaf in his mouth. When they are hunted, they turn much and often, and come back upon the dogs directly; and when they can no longer endure, they take foil, as the hart does, and will hang by a bough in such a manner, that nothing of them shall appear above the water but their snout, and they will suffer the dogs to come just upon them before they will stir.

The venison of a roe-buck is never out of season, being never fat, and therefore they are hunted at any time; only that some favour ought to be shown the doe while she is big with fawn, and afterwards till her fawn is able to shift for himself; but some roe-does have been killed with five fawns in their bellies.

He is not called, by the skilful in the art of hunting, a great roe-buck, but a *fair roe-buck*; the herd of them is called a *bevy*: and if he hath not bevy-grease upon his tail, when he is broken up, he is more fit to be dog's meat than man's meat. The hounds must be rewarded with the bowels, the blood, and feet slit asunder, and boiled all together; this is more properly called a *dose* than a *reward*.

HUNTING-Match. The first thing that is to be considered by one who designs to match his horse for his own advantage, and his horse's credit, is not to flatter himself with the opinion of his horse, by fancying

that he is a swift, when he is but a slow gallopper; and that he is a whole-running-horse, that is, that he will run four miles without a sob at the height of his speed, when he is not able to run two or three. Very probably some gentlemen are led into this error, by their being mistaken in the speed of their hounds, who, for want of trying them against other dogs that have been really fleet, have supposed their own to be so, when in reality they are but of a middling speed; and because their horse, when trained, was able to follow them all day, and upon any hour, to command them upon deep as well as light earths, have therefore made a false conclusion, that their horse is as swift as the best; but, upon trial against a horse that has been rightly trained after hounds that were truly fleet, have bought their experience perhaps full dear. Therefore it is advisable for all lovers of hunting to procure two or three couple of tried hounds, and once or twice a week to follow after them at train-scent; and when he is able to top them on all sorts of earth, and to endure heats and colds stoutly, then he may better rely on his speed and toughness.

That horse which is able to perform a hare-chase of five or six miles briskly and courageously, till his body be as it were bathed in sweat; and then, after the hare has been killed, in a nipping frosty morning, can endure to stand till the sweat be frozen on his back, so that he can endure to be pierced with the cold as well as the heat; and then, even in that extremity of cold, to ride another chase as briskly, and with as much courage as he did the former; that horse which can thus endure heats and colds is most valued by sportsmen. Therefore, in order to make a judgment of the goodness of a horse, observe him after the death of the first hare, if the chase has been any thing brisk: if, when he is cold, he shrinks up his body, and draws his legs up together, it is an infallible sign of want of vigour and courage: the like may be done by the slackening of his girths after the first chase, and from the dulness of his teeth, and the dulness of his countenance, all which are true tokens of faintness and being tired; and such a horse is not to be relied on in case of a wager.

Here it will not be improper to take notice of the way of making matches in former times, and the modern way of deciding wagers. The old way of trial was, by running so many train-scents after hounds, as was agreed upon between the parties concerned, and a bell-course, this being found not so uncertain, but more durable than hare hunting; and the advantage consisted in having the trains led on earth most suitable to the qualifications of the horses. But now others choose to hunt the hare till such an hour, and then to run this wild-goose chase; a method of racing that takes its name from the manner of the flight of wild-geese, which is generally one after another; so the two horses, after running of twelvescore yards, had liberty, which horse soever could get the leading, to ride what ground he pleased, the hindmost horse being bound to follow him, within a certain distance agreed on by articles, or else to be whipped up by the triers or judges which rode by; and whichever horse could distance the other won the match.

But this chase, in itself very inhuman, was soon found to be very destructive to good horses, especially when two good horses were matched; for neither being able

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to distance the other till both were ready to sink under their riders through weakness, oftentimes the match was fain to be drawn and left undecided, though both the horses were quite spoiled.

This brought up the custom of train-scents, which afterwards was changed to three heats and a straight course; and that the lovers of horses might be encouraged to keep good ones, plates have been erected in many places in Britain. The fewer of these before you come to the course, if your horse be fiery and mettled, the better; and the shorter the distance, the better. Also, above all things, be sure to make your bargain to have the leading of the first train; and then make choice of such grounds where your horse may best show his speed, and the fleetest dogs you can procure: give your hounds as much law before you as your triers will allow, and then, making a loose, try to win the match with a wind; but if you fail in this attempt, then bear your horse, and save him for the course; but if your horse be slow, but well-winded, and a true spurred nag, then the more train-scents you run before you come to the straight course, the better. But here you ought to observe to gain the leading of the first train; which in this case you must lead upon such deep earths, that it may not end near any light ground: for this is the rule received among horsemen, that the next train is to begin where the last ends, and the last train is to be ended at the starting place of the course; therefore remember to end your last on deep earths, as well as the first.

HUNTINGDON, the county-town of Huntingdonshire in England, seated upon an easy ascent, on the north side of the river Ouse. It was made a free borough by king John, consisting of a mayor, 12 aldermen, burgesses, &c. by whom the two members of parliament are chosen. It had anciently 15 parishes, and has now but two; in one of which, called *St John's*, Oliver Cromwell was born, in 1599. Here was formerly a castle, built by William the Conqueror, which afterwards belonged to David, a prince of Scotland, with the title of *earl*; but Henry VIII. gave it to George Hastings, with the earldom annexed, in whose family it still continues. It stands in the great north road; and has a bridge built of free stone over the Ouse, which is made navigable for small vessels as high as Bedford. It is the place where the assizes are kept, and where the county-jail stands. It has a good market-place, and several convenient inns, besides a grammar-school; and is very populous. W. Long. $\circ$. 15. N. Lat. 52. 23.

HUNTINGDONSHIRE, a county of England, bounded on the south by Bedfordshire; on the west by Northamptonshire, as also on the north; and by Cambridgeshire on the east; extending 36 miles in length from north to south, 24 in breadth from east to west, and near 67 in circumference. This county, which is in the diocese of Lincoln, is divided into four hundreds, and contains 6 market-towns, 29 vicarages, 78 parishes, 279 villages, about 8220 houses, and upwards of 41,000 inhabitants; but sends only four members to parliament, namely, two knights of the shire, and two members for Huntingdon. It is a good corn country; and abounds in pastures, especially on the eastern side, which is fenny. The rest is diversified by rising hills and shady groves, and the river Ouse waters the southern part.

The air of this county is in most parts pleasant and wholesome, except among the fens and meres, though they are not so bad as the hundreds of Kent and Essex. The soil is fruitful, and produces great crops of corn, and the hilly parts afford a fit pasture for sheep. They have great numbers of cattle; and plenty of water-fowl, fish, and turf for firing; which last is of great service to the inhabitants, there being but little wood, though the whole county was a forest in the time of Henry II. The only river besides the Ouse is the Nen, which runs through Whittlesey Mere.

HU-QUANG, a province of the kingdom of China, in Asia, which has a great river called *Yang*, and *Tse-chiang*, which runs across it from east to west. It is divided into the north and south parts, the former of which contains eight cities of the first rank, and 60 of the second and third; and the latter, seven of the first rank, and five of the second and third. It is a flat, open country, watered every-where with brooks, lakes, and rivers, in which there are great numbers of fish. Here is plenty of wild-fowls; the fields nourish cattle without number, and the soil produces corn, and various kinds of fruits. There is gold found in the sands of the rivers; and in the mines they have iron, tin, &c. In short, there is such a variety of all sorts of commodities, that it is called *the magazine of the empire*.

HURA, in botany: A genus of the monadelphia order, belonging to the monœcia class of plants; and in the natural method ranking under the 38th order, *Tricocœæ*. The amentum of the male is imbricated, the perianthium truncated: there is no corolla; the filaments are cylindrical, peltated on top, and surrounded with numerous or double antheræ. The female has neither calyx nor corolla; the style is funnel-shaped; the stigma cleft in twelve parts; the capsule is twelve-celled, with a single seed in each cell. There is but one species, *viz.* the crepitans, a native of the West Indies. It rises with a soft ligneous stem to the height of 24 feet, dividing into many branches, which abound with a milky juice, and have scars on their bark where the leaves have fallen off. The male flowers come out from between the leaves upon foot-stalks three inches long; and are formed into a close spike or column, lying over each other like the scales of fish. The female flowers are situated at a distance from them; and have a long funnel-shaped tube spreading at the top, where it is cut into 12 reflected parts. After the flower, the germen swells, and becomes a round compressed ligneous capsule, having 12 deep furrows, each being a distinct cell, containing one larger round compressed seed. When the pods are ripe, they burst with violence, and throw out their seeds to a considerable distance. It is propagated by seeds raised on a hot-bed; and the plants must be constantly kept in a stove. The kernels are said to be purgative, and sometimes emetic.

HURDLE, is the name of a sledge used to draw traitors to the place of execution.

HURDLES, in fortification, are made of twigs of willows or osiers interwoven close together, sustained by long stakes. They are made in the figure of a long square, the length being five or six feet, and the breadth three and an half. The closer they are wattled together, the better. They serve to render the batteries firm, or to consolidate the passage over muddy ditches; or to cover traverses and lodgments for the defence of the workmen against fire-works or stones thrown against them.

The

Hu quang
Hurdles.

Hurds
Hurricane.

The Romans had a kind of military execution for mutineers, called *putting to death under the hurdle*. The manner of it was this: The criminal was laid at his length in a shallow water, under an hurdle, upon which was heaped stones, and so pressed down till he was drowned.

HURDLES, in husbandry, certain frames made either of split timber, or of hazle-rods wattled together, to serve for gates in inclosures, or to make sheep-folds, &c.

HURDS, or HORDS, of flax or hemp; the coarser parts separated in the dressings from the tear, or fine stuff. See FLAX.

HURL-BONE, in a horse, a bone near the middle of the buttock, very apt to go out of its sockets with a hurt or strain.

HURLERS, a number of large stones, set in a kind of square figure near St Clare in Cornwall, so called from an odd opinion held by the common people, that they are so many men petrified, or changed into stones, for profaning the sabbath-day by hurling the ball, an exercise for which the people of that country have been always famous.

The hurlers are oblong, rude, and unhewed. Many authors suppose them to have been trophies erected in memory of some battle; others take them for boundaries to distinguish lands. Lastly, others, with more probability, hold them to have been sepulchral monuments.

HURLY-BURLY, in vulgar language, denotes confusion or tumult, and is said to owe its origin to two neighbouring families, Hurleigh and Burleigh, which filled their part of the kingdom with contest and violence.

HURON, a vast lake of North-America, situated between 84° and 89° W. Long. and between 43° and 46° of N. Lat. from whence the country contiguous to it is called *the country of the Hurons*, whose language is spoken over a great extent in the southern parts of America.

† Treatise
on Tropical
Diseases,
&c. 8vo.

HURRICANE, a general name for any violent storm of wind; but which is commonly applied to those storms which happen in the warmer climates, and which greatly exceed the most violent storms known in this country. The ruin and desolation accompanying a hurricane (says Dr Mosely †) cannot be described. Like fire, its resistless force consumes every thing in its track, in the most terrible and rapid manner. It is generally preceded by an awful stillness of the elements, and a closeness and mistiness in the atmosphere, which makes the sun appear red, and the stars larger. But a dreadful reverse succeeding—The sky is suddenly overcast and wild—The sea rises at once from a profound calm into mountains—The wind rages and roars like the noise of cannon—The rain descends in deluges—A

dismal obscurity envelopes the earth with darkness—The superior regions appear rent with lightning and thunder—The earth often does and always seems to tremble—Terror and consternation distract all nature—Birds are carried from the woods into the ocean; and those whose element is the sea, seek for refuge on land—The frightened animals in the field assemble together, and are almost suffocated by the impetuosity of the wind in searching for shelter; which, when found, serves them only for destruction—The roofs of houses are carried to vast distances from their walls, which are beat to the ground, burying their inhabitants under them—Large trees are torn up by the roots, and huge branches shivered off, and driven through the air in every direction, with immense velocity—Every tree and shrub that withstands the shock, is stripped of its boughs and foliage—Plants and grass are laid flat on the earth—Luxuriant spring is changed in a moment to dreary winter.—This direful tragedy ended, when it happens in a town, the devastation is surveyed with accumulated horror: the harbour is covered with wrecks of boats and vessels; and the shore has not a vestige of its former state remaining. Mounds of rubbish and rafters in one place, heaps of earth and trunks of trees in another, deep gullies from torrents of water, and the dead and dying bodies of men, women, and children, half buried, and scattered about, where streets but a few hours before were, present the miserable survivors with a shocking conclusion of a spectacle to be followed by famine, and when accompanied by an earthquake, by mortal diseases.

These destructive phenomena are now thought to arise from electricity, though the manner in which it acts in this case is by no means known. It seems probable, indeed, that not only hurricanes, but even the most gentle gales of wind, are produced by the action of the electric fluid; for which see the articles WIND, WHIRLWIND, &c.

HURST, HYRST, or HERST, are derived from the Saxon *hyrst*, i. e. a wood, or grove of trees. There are many places in Kent, Sussex, and Hampshire, which begin and end with this syllable; and the reason may be, because the great wood called *Andreswald* extended through those countries.

HURST-Castle, a fortress of Hampshire in England, not far from Limington. It is seated on the extreme point of a neck of land which shoots into the sea, towards the isle of Wight, from which it is distant two miles.

HUSBAND, a man joined or contracted with a woman in marriage. See MARRIAGE.

HUSBAND-Land, a term used in Scotland for a portion of land containing six acres of sock and scythe land; that is, of land that may be tilled with a plough, and mowen with a scythe.

H U S B A N D R Y,

THE business of a farmer, or of one who lives by cultivating the ground. In this view it includes not only agriculture, but several other branches connected with it, such as the rearing of cattle, the management of the dairy, making butter and cheese, raising flax, timber, &c. the management of bees, and a num-

ber of other articles which it is difficult to enumerate particularly.

Agriculture, properly so called, treats only of the cultivation of different soils, and preparing them for yielding the largest crop of any kind of vegetable; but it belongs to husbandry to make choice of the soil most proper

Difference
betwixt
agriculture
and hus-
bandry.

proper for each different vegetable, and to manage matters so that each soil may carry what it is best adapted for, so that on the whole the produce of the farm may be as advantageous as possible. In like manner, the husbandman must know what crops are most proper to be raised in the country where he lives, either with a view to sale or to provender for cattle. The rearing of these, indeed, constitutes one of the most essential articles of husbandry; it being requisite that the husbandman should know not only how to feed them properly, but how to keep them free from diseases, and to distinguish the best breeds, so that such as are designed for work may be capable of doing the most at least expence, and those designed for sale may with the least trouble be brought in good condition to market, and afford the greatest profit to himself as well as the best bargain to the purchaser.

2
It is the interest of a husbandman to render provisions as cheap as possible.

3
Of societies for encouraging various branches of husbandry.

4
Doubtful how far they have been really useful.

5
Improvements in husbandry more apparent than real.

It is by means of the husbandman only that all the inhabitants of a country are enabled to live; whence it ought to be a consideration with him to cultivate the ground in such a manner, as may enable him to afford the produce at the lowest price. Thus he will also consult his own interest: for cheapness of provisions is the only true means by which the population of any country can be advanced; and the greater the number of inhabitants, the greater market will the husbandman have for his goods. Indeed, by a certain mode of arguing, it may be imagined, that it would be more advantageous to keep up provisions at as high a price as possible, rather than to lower them: but however this may apply to manufactures of various kinds, it never can apply to husbandry; for by raising the price of provisions, the price of every other thing also is raised, and it becomes more difficult for the husbandman himself to live, as well as others.

Thus the business of an husbandman is not only extremely complicated and difficult, but important also; insomuch, that societies have been lately instituted in many different parts of the kingdom for its advancement, and premiums offered to those who excelled in any particular branch. Some of these premiums are held out for raising the greatest quantity of particular kinds of vegetables; others for gaining the greatest extent of ground from the sea: some for improving waste ground; others for the invention of the most useful machines for harrowing, sowing, and various operations in agriculture. But though the intention of these societies is undoubtedly laudable and patriotic, and though the invention of man has in a manner been exhausted to accomplish the purposes for which they were instituted; it remains yet a matter of great doubt and uncertainty whether they have really been productive of any public good or not. It does not clearly appear, that the means of subsistence are rendered more generally easy, or that the lives of mankind are more happy and comfortable, than before any societies were instituted, or before any considerable improvements in husbandry were made. On the contrary, provisions of all kinds, instead of becoming cheaper, have gradually become dearer, and their price on the whole is sensibly augmented every four or five years. Hence it is impossible to avoid concluding, that, notwithstanding the apparent improvements which have been made in such numbers, there is not yet any real one in the whole art.—Something of this kind has been taken notice of even by the

N^o 159.

members of these societies themselves; and on this subject Mr Wimpey expresses himself as follows:

“It is certainly clear from the average prices of corn and provisions of all kinds for 20 years past, that there is not too much land in cultivation. Prices have advanced considerably above what has been deemed, and that justly too, the medium standard. As a manufacturing and commercial country, it is properly the duty of legislature to provide, as far as may be consistently with the liberty of the subject, that the price of provisions may be kept as near as possible to their medium value. This is conceived to be very practicable, even so as to be a convenience to the grower as well as the consumer. Some writers (Locke, Montesquieu, &c.) have supposed, that the advance of commodities in price is rather apparent and nominal than real. Things are not so much, if at all (say they), advanced in price, as it is imagined. The precious metals are exceedingly increased in quantity, and proportionably fallen in value. Possibly there may be some truth in this observation, if we go back some hundreds of years; and if taken upon a scale that comprehends all Europe: but from the term of 40 or 50 years, or even from the time that Mr Locke wrote to the present hour, there is little difference in the value of gold and silver; an ounce of either being of much the same value now as then. The frequent and sudden changes that take place in the price of corn and other commodities, which are sometimes at double the price one year they were the foregoing, must be owing to some other cause than that above-mentioned, which operates slowly, if at all, and is not perceptible in less than a century.

“If the quantity of corn and provisions at market always has borne the same proportion to the demand there is for them, the price would be always invariably and unchangeably the same. The variation of the prices, therefore, is governed by the variation of the said proportion. If the demand be greater and the quantity the same, or the demand the same and the quantity less, the price must necessarily advance; and *vice versa*, if the quantity should increase, and the demand remain the same, the price must as necessarily fall; and it is not in the power of man to make it otherwise. But though this immutable relation is beyond our power to alter, we can by art and industry augment the quantity, and thereby lower the price; cheapness being an infallible consequence of plenty, which is the direct object of an improving cultivation. This is a matter of great consequence to the poor labourer, the manufacturer, and the merchant; and no disadvantage to the grower; because, what he would lose by the fall of price, he would gain by the increased consumpt.

“It is not easy to conceive how many and how great the improvements are which have been made in this most important of all arts in the course of the present century. A patriotic spirit of uncommon ardour hath gone forth; and the nobility and gentry, like the senators of Rome, have set, as it were, their hands to the plough, and excited their tenants and neighbours to practices of which they had no idea before. Yea, they have done more; they have instituted societies, and made them receptacles and distributors of useful knowledge; they have raised subscriptions, and added marks of honour and pecuniary advantages to the rewards which naturally result from the attention and industry of

Bath Papers, vol. iii. p. 171.

6
Opinion of Mr Wimpey.

7
Why those who have gained premiums from societies have not been of any real service to the country.

of the ingenious artist. But it must be allowed, that though much has been done, there still remains much more to be done. Experimenters have not always (perhaps but seldom) entered into the views, and ably seconded the intentions, of those valuable institutions. Animated with the hope of obtaining the premiums held out by dint of extraordinary exertions, expensive manures, and a concurrence of fortunate circumstances, more the effect of chance than of design, they often have been the successful adventurers, though at the same time entirely ignorant to what causes they owed their success. We too often indeed ascribe effects to causes which are no way connected with them. The practice of such men is more like the nostrums of quacks, than the recipes of a regular physician. The medicine may be good; but, being ignorant of principles, they know not how to accommodate it as circumstances may require."

8
Improvements made in husbandry hitherto attended with no profit.

Considerations of this kind must certainly lead us to suppose, that most, if not all, the improvements made in husbandry for a long time past, are too expensive; and that, though by their means larger crops are now obtained than formerly, the profits are more than swallowed up by the enormous sums required to produce them. Hence we have as yet obtained only larger or more elegantly formed *leasts* of different kinds; and whether this acquisition is ultimately to be considered as profitable, remains yet to be determined. Unfortunately this sentiment seems to be confirmed by taking a review of the agricultural improvements made during the last half-century. These are:

Bath Papers, vol. 5.

9
Account of the improvements in agriculture for the last half century.

1. *Improvements in the Art of Tillage.* Improvements of this kind consist in more perfectly breaking and pulverising the soil, and keeping it more free from weeds than formerly. Mr Jethro Tull was the author of these, and showed the advantages thence arising. By frequent turning over and pulverising the soil, we not only destroy the weeds very effectually, but likewise grubs, beetles, worms, and maggots of many different kinds. "Nothing (says Mr Wimpey) so effectually prevents the ravages of the several tribes of subterraneous insects as the frequent stirring and crumbling the ground: I have had large patches of several poles square in a field of beans destroyed by the grub of the cock-chaffer; and many hundreds of cabbage-plants by a grey grub of smaller size. Both these execute their mischief underground. The former eat the roots of the beans even when in kid; and then they wither, fall, and die: the latter bites off the stem of the plant just under the surface, and does infinite mischief: but I have always found tillage, duly performed, capable of destroying the whole race."

2. *Invention of new Implements of Husbandry, or improvements of the old.* This class includes all the new invented ploughs, harrows, horse and hand hoes, &c. by means of which it is generally supposed that the work of tillage can be performed at much less expence, as well as more effectually, than formerly.

3. *Saving a great quantity of Seed in sowing, and the production of better Crops, by the more regular distribution of what is sown.* This improvement chiefly consists in drilling, instead of sowing in the broad-cast way as formerly. The gain is here evident; and Mr Wimpey calculates it at a tenth or twelfth part of the whole produce: and if the community are not yet sensible of

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any advantage from such a considerable saving, it must be because the drilling husbandry has not yet become very general.

4. *Suiting the Crop to the Nature and Condition of the Soil.* The farmer is now enabled to this better than formerly, by the introduction of a number of new vegetables formerly unknown. Thus, as there are many grounds very unfit for the production of wheat, there is now no occasion for reaping scanty crops of it from such as are little adapted to the raising of that grain; because another article, for which perhaps there was formerly no demand, may now be raised with considerable profit on a soil where wheat will not grow to any advantage.

5. *The Rotation of Crops.* Thus a very considerable addition is made to the produce of the ground by keeping it perpetually fertile; whereas formerly it was often worn out and rendered barren by too frequent cropping, when a proper rotation was not known.

6. *The Introduction of new Manures.* These are principally lime and marle; of the action of which an account is given under the article AGRICULTURE, n^o 20.

7. *The Introduction of many new Articles into Field-Culture.* These, whatever profit they may yield to the farmer, consist principally of provender for cattle. They ought, however, to have a considerable effect in producing plentiful harvests, as hereby the cattle may be supposed to do their work more perfectly, and to be maintained at less expence than before.

8. *The Application of these to the rearing and fattening of Cattle.* The good effects of this ought to be felt partly in the manner mentioned in the former article, and partly in lowering the price of flesh-meat, and consequently of all other kinds of provisions.

Thus we see, that in the course of half a century, methods have been found of eradicating weeds, destroying insects, saving vast quantities of seed-corn, of suiting the crops to the soil, of using new manures, raising new plants; and all this, together with multitudes of new machines for performing in a better manner the operations of agriculture, has apparently amounted to mere nothing. The price of provisions seems to have begun to rise with the improvements, and to be continually advancing. It is by no means in our power to point out particularly the causes of so disagreeable an event. It must, however, undoubtedly depend on some miscalculation, or over-rating the profits which have arisen from those improvements: whence the landholders have uniformly been induced to raise their rents, while the farmers, finding their expences greatly augmented, not only on account of the advance of rent, but likewise from the more costly modes of tillage, have been obliged to augment the prices of their grain beyond what the increased influx of money into the kingdom would bear.—Such miscalculations are not uncommon in every business. A manufacturer is apt to be enticed by a certainty of having an increase of his goods in a given time: but frequently, when improvements are tried, it is found that the absolute expence, or the quantity of labour requisite to produce the increase, is greater than the augmentation of profit can bear; and he is afterwards, with regret and loss, obliged to lay aside the improvements from which he had once such hopes. In like manner, we fear, it has fared with the husbandman. The improvements

10
Little advantage resulting from the whole.

11
Conjectures concerning the causes.

in husbandry originated principally among the landholders; whose principal view, we may suppose, was an augmentation of rent. The tenants were obliged to attempt improvements in order to pay the advance, as well as by the express order of their landlords. Hence they were induced to keep a great number of horses, that their lands might be tilled with sufficient expedition, and in a more perfect manner than before. The oxen, formerly made use of, and which answered the purposes both of provision and labour, were discarded, and a set of most expensive animals, useless except for the purposes of labour or pleasure, introduced in their stead. A vast quantity of grain, which ought to have sustained the human species, was thus bestowed on the brute creation: and though this might in some measure be supposed to be counteracted by the increase of crop in consequence of employing horses, it is evident that it has not answered the general expectation; since we may say, that the farmers have not been able to pay one penny of advanced rent without advancing also the price of their grain.

¹²
Of the rearing of cattle.

With regard to the rearing of cattle, the case is equally doubtful. The most extravagant prices have been given for the best breeds as they are called; but it remains yet to be proved, that these breeds are really more useful to the country than the smaller ones. The expence of keeping them is undoubtedly greater, and this expence is enhanced by the large cattle being generally less hardy than the smaller. It seems, besides, impossible that one large horse, for instance, can be equally useful with two small ones, even though he should be as strong as both; for this plain reason, that two horses, though ever so small, can be put to two different kinds of work at once, which cannot be done with the largest single horse imaginable. The like is applicable to black cattle: We cannot suppose the largest single ox to be equal to two ordinary oxen, though he may perhaps require more to fatten him than would bring to market three or four of an ordinary quality; and so of other animals.

¹³
Of the other improvements in husbandry.

It is much to be feared that the same reasoning extends to most of the improvements hitherto made in husbandry. The vegetative powers of the earth cannot be made always to exert themselves to the utmost, without an expence which the increase of produce can by no means balance. By a total neglect of culture, indeed, the soil will produce little or nothing; by a moderate degree of culture the product will be greatly augmented, the farmer will be enabled to pay his rent, and at the same time to afford his grain at such a price as can allow the labourers to live comfortably: but if we go on with extraordinary methods of culture, expecting to increase the produce of the soil, and to be able to exact an augmentation of rent *ad infinitum*, we will certainly be deceived; for thus the price of provisions must be infinitely increased also. Thus, indeed, the produce of the ground will be somewhat increased, but the farmer will ultimately be a loser; so that, to save himself from ruin, he must at last burthen the public both with his advanced rent and the expence of most of his improvements, by advancing the price of grain and of all kinds of provisions.

Such seem in general to be the reasons why the country has reaped so little advantage by the improvements

made of late in the affairs of agriculture and husbandry. If experiments are now to be made, it is plain that they ought to be with a view to determine that medium of culture which the ground can bear with the greatest profit, comparing the expence and produce of the two different modes together; and that mode which is the least expensive ought undoubtedly to be chosen, even though attended with no more profit than that which is executed at a greater expence. Thus, if a farmer, by laying out 5*l.* can produce a crop equivalent to 7*l.* he ought undoubtedly to prefer that to a mode of cultivation by which he lays out seven to procure nine. Nay, though by his new method he should procure 9*l.* 10*s.* by laying out 7*l.* it would still be evidently for the good of the community that the former method were followed. The reason of this is, that every expence of the husbandman, as well as of every other, must ultimately be defrayed by the community at large. Thus if the husbandman employs a greater number of hands than would otherwise be necessary, it is plain that the expence of these must be defrayed by the community, not only because of the provisions they must necessarily consume, but because each of these, were he not employed in that particular way, might contribute in some other towards his own support and that of others: and the very same may be said of the farmer who employs a greater number of horses than would otherwise be necessary. Now, in the example just given, the farmer, or the community at large, by laying out 5*l.* gain 40*s.* which is 40 *per cent.*; but in the other case, *viz.* that of expending 7*l.* for a return of 9*l.* 10*s.* the farmer indeed gets 50*s.* instead of 40*s.* but the community do not gain equally, having now not quite 36 *per cent.* instead of 40 which they had before.

Hence it becomes evident, that by encouraging individuals to expend large sums on agriculture, and thus diminish the proportion of their own profits, the community must always suffer, and a rise of provisions will infallibly take place, whether the individuals enrich themselves or not. Evils of this nature can be remedied only by the legislature: but it is to be feared that the time is yet very distant when any certain mode of culture will be established by law; and until this happen, it is vain to think that either the speculations or experiments of individuals or of societies will be attended with much benefit to the community, whatever advantage particular persons may sometimes derive from them.—Leaving this subject, therefore, we shall now proceed to those which more immediately relate to the business of husbandry in its present state.

In considering this subject in its full extent, it evidently divides itself into three parts: the *first*, Relating to the cultivation of such vegetables as are proper for the subsistence of mankind or the rearing of cattle; as grain, grass, cabbage, turnips, and other vegetables of that kind: the *second*, Such as belong more particularly to trade and commerce; as flax, hemp, hops, bees, timber, &c. Under both these are included the knowledge of various manures, of the nature of different soils, &c. The *third* part includes, the raising and management of cattle, poultry, of the dairy, with other adventitious articles, less connected with agriculture; of all which we shall now treat in order.

¹⁴
Disadvantage of allowing farmers to expend large sums on agriculture, in order to enrich themselves by a small proportion of profit.

¹⁵
Division of husbandry into three parts

PART I. Of the VEGETABLES most proper to be raised for the use of the HUMAN SPECIES, or as FOOD for CATTLE.

AMONG those raised for the use of mankind, wheat has universally been supposed to hold the first place, and other kinds of grain to be the next to it; but in modern times, an author of no mean reputation has arisen, who endeavours to prove that wheat ought not to be cultivated, nor bread to be eaten. This is M. Linguet, who has written a treatise expressly upon the subject; and, ridiculous as the assertion may seem, has been thought worthy of a formal refutation by Dr Tissot.—One of M. Linguet's arguments is, that wheat impoverishes the ground on which it grows: but in opposition to this, Dr Tissot urges, that corn is more easily cultivated than grass; and that consequently, in the country he speaks of (Switzerland), the best fields are appropriated to hay, and the worst to corn. "If there are some districts of very poor land (says he) almost entirely sown with corn, they are not poor because they produce only corn, but because they are not fit to produce any thing else. Their soil is so bad, that they can grow but very little fodder: consequently they maintain only such cattle as are absolutely necessary for labour; and those are ill fed, and frequently perish. They have but little manure, and their crops are small; for large crops of all sorts can only be expected from lands naturally rich or strongly manured. Thus the poverty of the inhabitants is only owing to their possessing an ungrateful soil.—What proves evidently that it is the natural soil which is in the fault, and not the corn which impoverishes, is, that where there is meadow and arable land, the price of the meadow-land is much more considerable than that of the arable. In most parts of this country the proportion is nearly ten to one; and there are even some meadows, for one part of which they would give 30 of field-lands; and some of vines, for which 100 of arable would be given. Those districts where the soil will produce nothing but corn, are poor; but in those which furnish fodder, and also fine crops of grain, the inhabitants are wealthy and happy, unless they are oppressed by taxes."

M. Linguet draws another objection from the length of time required to cultivate wheat; but Tissot, by another calculation, shows, that 48 days work throughout the year would cultivate more wheat than is sufficient for a family of six persons. The time necessary for cultivation of arable land also does not increase in proportion to its extent; but in case more is cultivated than is requisite for the subsistence of the family, a trade is formed, which might be increased to an unlimited extent. He then compares the time requisite for the cultivation of vines which are recommended by M. Linguet, and finds it to be much longer than that required for wheat. "I know very well (says he) that the one requires cattle, and the other does not: but these cattle, far from being expensive, will, if properly managed, increase the gain of the farmer; therefore they must not be looked upon as any expence. Corn is subject to many accidents, but vines are subject to many more: those which the vines suffer, sometimes

spoil the vintage for several years; whereas those which happen to arable land, only spoil the crop for the season: and as the expence of cultivating vines, for which only manual labour can be employed, is much more considerable; therefore the *vigneron* (or person who cultivates vines), who engages more largely than the farmer, will consequently be a much greater loser if unsuccessful.—Hay is also subject to frequent and very disagreeable accidents; the securing it is sometimes very difficult; and, when it is badly made, it is very hurtful to cattle.—A single fact will be sufficient to prove the casualties to which hay is subject; *viz.* that it varies in price as much as grain. Accidents of hay-mows taking fire are but too frequent; and this is not to be feared in corn-mows."

The other objections of M. Linguet to wheat appear to be quite frivolous; so that concerning the cultivation of this grain, Dr Tissot draws the following conclusions: "It appears then, from what has been said, that wheat is not a commodity that is impoverishing in itself; and that this grain will grow indifferently at least in lands and situations which are unfavourable to other plants. This grain is likewise adapted to most climates; and if there are districts almost entirely sown with wheat, and yet poor, it is the fault of the soil, and not of this useful grain."

But the most extraordinary argument perhaps ever thought of on this subject is M. Linguet's assertion, that the use of wheat, or bread made from it, is detrimental to population; and that the countries where this grain is cultivated are poor and thinly inhabited, whereas those which abound with vineyards and pasture-lands are rich and populous. But this, in Dr Tissot's opinion, shows only that one soil is more rich than another, and that a fertile soil will maintain most inhabitants. "No person (says he) is more capable of assigning the cause of the subjection of the Roman empire to the northern powers, than M. Linguet; but he cannot surely be serious when he says, that they were enabled to conquer them because those northern countries produced no corn, and that population decreased since the introduction of grain. I shall make three observations on this passage: First, the armies of Gustavus Adolphus, Charles XII. and the king of Prussia, whose food was bread, would be as formidable against the Italians of those times, who eat less than was eaten in the days of Scipio, as their ancestors were 1400 years ago against the Romans: and M. Linguet must certainly know, that those Greeks who subsisted on bread, those Romans who eat nothing but bread and vegetables in pottage, subdued all the known world, among whom were many nations who ate less bread than themselves. A Roman soldier's allowance of bread was much greater than what soldiers have at present; and by the use of this food they had much more strength than our modern soldiers can boast of. The allowance to a Roman soldier was 64 pounds of wheat per month; and this he was strictly forbidden

either to sell or exchange. Their soldiers had very seldom any cheese, bacon, or pulse; so that wheat was almost their only food, and the proportion was double what is allowed soldiers in our days. They ate it in bread, in flour-milk, and in thin cakes; and they were not subject to epidemic or putrid disorders, which is too much the case with our modern armies. We may easily judge from the weight of their accoutrements, that the Roman soldiers were not possessed of less personal strength than those which compose the armies at this day; they were not less brave, nor did their food render them in any way unhealthy: on the contrary, where there is such difficulty in procuring a supply of good animal food to an army, as is often the case in modern times, it is probable that reducing them to the simple diet of a Roman soldier would be the most proper method of preventing epidemic diseases among them. Secondly, it is very doubtful whether those countries were more populous formerly than they are at this time; it is even probable that they were less so. Lastly, the people of these northern countries were not without wheat; it was the basis of their food and drink: without quoting other authors who attest it, suffice it to say, that Tacitus affirms it," &c.

In this last particular, however, our author appears to be mistaken; but whatever may be in this, we apprehend that few of our readers will entertain any doubt concerning the wholesomeness of wheat, or the propriety of making it into bread after once it is cultivated. The truly important matter is to determine, whether it be a profitable crop or not for the person who cultivates it? In this respect indeed it has been condemned by the generality of farmers, and dairy-farms are universally supposed to be more profitable than such as produce corn. The vast superiority of the former is set forth by Thomas Davis, Esq; of Long-leat, in the following words. "Experience sufficiently evinces the extreme difficulty of persuading tenants that they get more (generally speaking) by feeding their lands, than by ploughing them; yet it requires very few arguments to convince a landlord, that in cold wet lands especially, the less ploughed land you have, the less you put it in a tenant's power to ruin your estate. That a tenant of 60 l. per annum on a dairy-farm will get money, while a corn farm of the same size will starve its occupier (though perhaps the former gives 15 s. per acre for his land, and the latter only 10 s.), is self-evident. The plough is a friend of every body's, though its advantages are very far from being particularly and locally felt; corn being an article that will bear keeping till the whim or caprice, or supposed advantage of its possessor, call it forth. But the produce of the cow is far otherwise. Cheese must necessarily be sold at a certain period: it is a ponderous article; and one-twelfth, or at least one-fifteenth, of its value, is often paid for carrying it to a fair 50 miles off; and the butter and skimmed milk find their way no great distance from home, as is evident by the price of butter varying frequently one-third in 20 or 30 miles. Every inhabitant of Bath must be sensible, that butter and cheese have risen one-third or more in price within 20 years. Is not this owing to the great encouragement given to the plough and to grazing, at a time when,

on account of the increased demand for milk, cream, butter, and cheese, every exertion on behalf of the dairy should have been encouraged?" &c.

In some remarks on this letter by Mr Billingsley, the same superiority of dairy-farms to the arable kind is asserted in the most positive terms. "Perhaps (says he) there cannot be a stronger proof of the inferiority of the plough with respect to profit, than the superior punctuality of the dairy farmer in the payment of his rent. This observation, I believe, most stewards who superintend manors devoted partly to corn and partly to dairy-farms, will verify; at least I have never met with one who controverts it. But perhaps the advocate for the plough will desire me not to confound the abuse of a thing with its intrinsic excellence; and say, that the generality of corn farmers are most egregious slovens; that lands devoted to the plough are not confined to such a mediocrity of profit as 20s. per acre; that the produce of artificial grasses (without which a well managed arable farm cannot exist), far exceeds that of natural grass both in respect of quantity and nutrition; that the straw-yard is a most convenient receptacle for the cow when freed from the pail. These, and many other reasons, may be adduced to show the propriety of walking in the middle path, and of judiciously blending *arable* with *pasture*, in the proportion perhaps of *three* of the latter to *one* of the former."

On these letters we shall only remark, that for the good of mankind we hope the opinions they contain will never come into general practice; as thus the price of bread must be raised so high, that the lower classes of people would be entirely deprived of it. In the Bath Papers, vol. v. p. 43. we have a method proposed by Mr Wimpey of improving small arable farms in such a manner as to make them yield as much milk, butter, and cheese, as those which are kept continually in pasture. He agrees with the maxim already mentioned, that small arable farms do not afford the occupier so good a maintenance as dairy farms of the same value; and that the possessor of a dairy farm will do well and save money, while the former, with much toil and trouble, is starving himself and family. Notwithstanding this, he maintains, that there is an essential difference between ground that is naturally arable, and such as is by nature adapted for pasture. Land which is naturally arable, according to him, can by no means be converted into pasture of any duration. "Such as, from a wild state of nature, over-run with furze, fern, bushes and brambles, has been rendered fertile by means of the plough, must be kept in that improved state by its frequent use; otherwise it would soon revert to that wild barren state which was its original condition. A farm, therefore, which consists wholly, or almost so, of land that is properly arable, must ever continue arable; for it is not practicable to render it in any degree fertile but by means of the plough, or to keep it long in that state even when it is made so." He is of opinion, however, that by raising crops proper for feeding cattle, the possessor of an arable farm may raise as great a number of horned cattle as one who has a pasture farm; the only question is, Whether he can be reimbursed of his expences by the produce? "To ascertain this fact

(says

(says he), we must inquire what may be the average expences of keeping a milch-cow on a dairy-farm for any given time. It is said, upon very good authority, that the expence is generally from 3 l. to 3 l. 10 s. per annum. Two acres and an half of pasture fit for this use is sufficient to keep a cow the whole year through, and such land is valued at from 25 s. to 30 s. per acre. At 25 s. the keeping of each cow would amount to 3 l. 2 s. 6 d. per annum. A dairy-farm, therefore, consisting of 48 acres, at 25 s. per annum, would amount to 60 l. rent; and the number of cows that might be kept on such a farm would be about 20. In the next place, with regard to the expence of keeping a cow upon food raised in arable land as a succedaneum for grass, we are assured by unquestionable authority, that a bushel of potatoes given half at night and half in the morning, with a small allowance of hay, is sufficient to keep three cows a-day; by which allowance their milk will be as rich and as good as in the summer months when the cows are in pasture. An acre of land, properly cultivated with potatoes, will yield 337 bushels; and the total expence of cultivation, rent and tithe included, will not exceed 6 l. 13 s. If three cows eat seven bushels per week, then they would eat 364 bushels in a year; and 20 cows would consume 2433 bushels: So that, according to this calculation, seven acres and a quarter would nearly maintain as many cows as on the arable farm could be maintained by 48 acres. If then the cultivation of one acre of ground costs 6 l. 13 s. the cultivation of seven acres and a quarter will cost about 48 l. We have seen, however, that the rent of a dairy-farm capable of maintaining 20 milch-cows, is not less than 60 l. so that the calculation is thus entirely in favour of the arable farm; seven or eight acres of the arable farm being superior by 12 l. in value, when cultivated with potatoes, to 48 acres of meadow or pasture-ground." "It must indeed be observed (adds our author), that in this statement no allowance is made for the small quantity of hay given to the cows with the potatoes. It must be noted also, that the account of cultivation is charged with 40 s. an acre for manure, and some expence for ploughing, which of right is chargeable to the crop of wheat that is to follow. Now, if we deduct 40 s. an acre from the expence of cultivating the potatoes, it reduces the sum to 4 l. 13 s. and the whole expence upon seven acres and a quarter is thus less than 34 l. and consequently the keep of 20 cows is little more than half to the occupier of the arable farm what it is to the occupier of the grazing farm. If this conclusion be fairly drawn, and the calculation free from errors, it is matter of the greatest importance, especially to the little arable farmer. It plainly raises him from a state of acknowledged inferiority to one greatly superior."

16
Objection
answered
from an
experiment
of Mr.
Vagg.

Our author next proceeds to obviate an objection, "that the whole of his reasoning must be indecisive, as relating only to potatoes." In opposition to this, he adduces an experiment made on a pretty large scale by Mr Vagg; from which it appears, that cabbages, when raised upon arable ground, are nearly as much superior to a natural crop as potatoes are. Twelve acres were employed in this experiment, and those of an indifferent quality. The rent was 30 s. per acre, and the

whole expence of culture and carting off the crop amounted only to 1 l. 14 s. so that all the cost of the twelve acres was 38 l. 9 s. From the produce were fed 45 oxen and upwards of 60 sheep; and he was assured that they improved as fast upon it as they do in the best pasture months, May, June, and July. "Now (says Mr Wimpey), if instead of 60 sheep we reckon 15 oxen, or that four sheep are equal to about one ox, in which we cannot err much; then 60 oxen were kept well for three months, or, which is the same thing, 15 for a whole year, for 38 l. 9 s.; and consequently 20 oxen would cost 51 l. 5 s. 4 d. which is not quite 3 l. more than the keeping of 20 cows would cost in potatoes. Turnips, turnip-rooted cabbage, carrots, parsnips, and some other articles, by many experiments often repeated, have been found quite adequate to the same valuable purposes; at least so far as to be more lucrative than meadow or pasture. Clover and rye-grass are omitted, as having been long in general practice; but are in common very short of the advantages which may be derived from the cultivation of the other articles recommended." Sainfoin is greatly recommended: but our author acknowledges that it makes but a miserable appearance the first year, though afterwards he is of opinion that one acre of sainfoin is equal to two of middling pasture-ground; for which reason he accuses the farmer of intolerable indolence who does not cultivate so useful a plant. On this subject, however, we must remember, that the culture of sainfoin is clogged with the loss of one if not two crops; which may sometimes be inconvenient, though afterwards it remains in perfection for no less than 20 years. The most advantageous method of raising it he supposes to be after potatoes. Thus it will thrive even upon very poor ground; as the culture and manure necessary for the potatoes both pulverise the soil and enrich it to a sufficient degree.

From these experiments and observations, therefore, it appears very probable at least, that it is by no means against the interest of a farmer to cultivate large quantities of grain; and that he may even do this in a consistency with raising as many cattle as he can have occasion for. Some grounds, no doubt, are naturally so fitted for pasture, that it would be too expensive to force them into arable ground; but wherever this can be done, it seems proper always to have as much arable as possible, instead of as little, which Messrs Davis and Billingsley advise. Grain of different kinds, therefore, and particularly wheat, ought to be cultivated by a farmer to as great an extent as possible; though these different kinds can be determined only from the nature of the soil, and certain circumstances arising from the situation of the place, for which no particular rules can be given. A view of the general practice of some of the principal counties in England, however, may perhaps be of some use to furnish general directions for the farmer.

SECT. I. Of the Cultivation of Wheat.

THERE is perhaps no part of Great Britain where this species of grain is cultivated to more perfection than in Norfolk. Mr Marshal informs us, that the species raised in that county is called the *Norfolk red*, and

17
Number of
cattle fed
from 12
acres of
cabbages.

18
Great quan-
tities of
grain may
be advan-
tageously
raised.

19
Culture of
wheat in
Norfolk.

weighs

Wheat

weighs heavier than any other which has yet been introduced, though he owns that its appearance is much against the assertion, it being a long thin grain, resembling rye more than well bodied wheat. About 15 or 20 years ago a new species was introduced, named the *Kentish cosh*; against which the millers were at first very much prejudiced, though this prejudice is now got over. A remarkable circumstance respecting this grain is, that though upon its introduction into the county the *cosh* or husk be perfectly white, yet such is the power either of the soil or of the mode of cultivation to produce what the botanists call *varieties*, that the grain in question is said to lose every year somewhat of the whiteness of its husks, until they become at last equally red with those of the former kind. The southern and southeastern parts of the county generally enjoy a stronger and richer soil than the more northerly, and therefore are more proper for the cultivation of that species of grain. In the northern parts are some farms of very light soil, where the farmers sow only a small quantity of wheat; and these light lands are called *barley farms*.

20
Succession
of crops,
&c.

21
Rice-balk-
ing, a par-
ticular
mode of
culture ex-
plained.

The greatest part of the wheat in Norfolk is sown upon a second year's lay; sometimes it is sown upon a first year's lay; sometimes on a summer-fallow; after peas, turnips, or buck harvested or plowed under. The practice adopted by those who are looked upon as superior husbandmen in the county of Norfolk is as follows. The second year's lays having finished the bullocks, and brought the stock-cattle and horses thro' the fore-part of summer, and the first year's lays having been made ready to receive his stock, the farmer begins to break up his old land or lay-ground by a peculiar mode of cultivation named *rice-balking*; in which the furrow is always turned toward the unplowed ground, the edge of the coulter passing always close by the edge of the flag last turned. This is done at first with an even regular furrow; opportunity being taken for performing the operation after the surface has been moistened by a summer-shower. In this state his summer-lays remain until towards the end of harvest, when he harrows and afterwards plows them across the balks of the former plowing, bringing them now up to the full depth of the soil. On this plowing he immediately harrows the manure, and plows it in with a shallow furrow. The effects of this third plowing are to mix and effectually pulverise the soil and manure; to cut off and pulverise the upper surfaces of the furrows of the second plowing; and thus, in the most effectual manner, to eradicate or smother the weeds which had escaped the two former ones. Thus it lies until the seed-time, when it is harrowed, rolled, sown, and gathered up into ridges of such width as the farmer thinks most proper. Those of six furrows are most common, though some very good farmers lay their wheat-land into four-furrow, and others into ten-furrow ridges; "which last (says our author) they execute in a style much superior to what might be expected from wheel-plows." They excel, however, in the six-furrow plowing; of which Mr Marshal gives a particular account. When plowing in this manner, they carry very narrow furrows; so that a six-furrow ridge, set out by letting the off-horse return in the first-made furrow, does not measure more than three feet eight or nine inches.

Wheat.

When wheat is cultivated after the first year's lay, the seed is generally sown upon the flag or furrow turned over. After pease, one or two plowings are given; the other parts of the management being the same with that after the second year's lay already mentioned. After buck harvested he seldom gives more than two, and sometimes but one, plowing. In the former case he spreads his manure on the stubble, and plows it in with a shallow furrow; harrows, rolls, sows, and gathers up the soil into narrow work. The manure is in like manner spread on the stubble after once plowing, and the seed is then sown among the manure; the whole plowed in together, and the soil gathered up into narrow ridges, as if it had undergone the operations of a fallow. An inconvenience attending this practice is, that the buck which is necessarily shed in harvesting springs up among the wheat, and becomes a weed to it, at the same time that the rooks, if numerous, pull up both buck and wheat, leaving several patches quite bare. This is obviated in a great measure by first plowing in the manure and self-sown buck with a shallow furrow; in consequence of which the buck vegetates before the wheat.

It is likewise a favourite practice with the Norfolk farmers to raise wheat after buck plowed under. They plow under the buck by means of a broom made of rough bushes fixed to the fore tackle of the plow between the wheels, which bears down the plant without lifting the wheels from the ground. Sometimes, when the buck is strong, they first break it down with a roller going the same way that the plow is intended to go; afterwards a good plowman will cover it so effectually that scarce a stalk can be seen. Sometimes the surface of the ground is left rough, but it is more eligible to harrow and roll it. The practice of summer-fallowing seldom occurs in Norfolk; though sometimes, when the soil has been much worn down by cropping, and over-run by weeds, it is esteemed a judicious practice by many excellent husbandmen, and the practice seems to be daily gaining ground. After turnips the soil is plowed to a moderate depth, and the seed sown over the first plowing: but if the turnips be got in early, the weeds are sometimes first plowed in with a shallow furrow, and the seed plowed under with a second plowing, gathering the soil into narrow ridges.

With regard to the manuring of the ground for wheat in Norfolk, that which has been recently clayed or marled is supposed to need no other preparation any more than that which has received 15 or 20 loads of dung and mould for turnips; the first year's lay having been teathed in autumn, and the second fed off. Where the soil is good, and the wheat apt to run too much to straw, it is the practice of some judicious farmers to set their manure upon the young clover, thereby depriving the wheat in some degree of its rankness; but it is most common to spread it upon the broken ground; or if the seed be sown upon the turned furrow, to spread it on the turf and plow it under; or to spread it on the plowed surface, and harrow it in with the seed as a top-dressing. A smaller quantity of manure is generally made use of for wheat than for turnips. From eight to ten cart-loads (as much as three horses can conveniently draw) are reckoned sufficient for an acre; three or four

22
Manuring
the ground
in Norfolk.

Wheat. four chaldrons of lime to one acre, or 40 bushels of foot to the same quantity of ground; or about a ton of rape-cake to three acres.

²³ Time of sowing. In this county they never begin to sow wheat till after the 17th of October, and continue till the beginning of December, sometimes even till Christmas. They give as a reason for this late sowing, that the wheat treated in this manner is less apt to run to straw than when sown earlier. The seed is generally prepared with brine, and candied in the usual manner with lime. The following method of preparing it is said to be effectual in preventing the smut. "The salt is dissolved in a very small quantity of water, barely sufficient for the purpose. The lime is slaked with this solution, and the wheat candied with it in its hottest state, having been previously moistened with pure water." According to our author's observation, the crops of those farmers who use this preparation are in general more free from smut than those who make use of any other.

²⁴ Of preparing the seed. The practice of dibbling or setting of wheat has not as yet become general throughout Norfolk, the common broad-cast method being usually followed, except on the Suffolk side of the county. Some few make use of dibbling and fluting rollers; but drilling is almost entirely unknown, notwithstanding the great aptitude of soil for the practice. Plowing in the seed under furrow is the favourite mode of the Norfolk farmers, and is performed in the following manner:

²⁵ Method of sowing. "The land having been harrowed down level, and the surface rendered smooth by the roller, the head-plowman (if at leisure) marks out the whole piece in narrow slips of about a statute rod in width. This he does by hanging up the plough in such a manner, that no part of it except the heel touches the ground; and this makes a sure mark for the seedsman, which he cannot by any means mistake. In case the ploughs are all employed, the seedsman himself marks the ground, by drawing a piece of wood or other heavy body behind him." Mr Marshall prefers this to the Kentish method of setting up sticks in the form of a lane, as being less liable to produce mistakes.

²⁶ Plowing the seed under furrow described. In those places where wheat is dibbled, they make use of iron instruments for the purpose. The acting part is an egg-shaped knob, somewhat larger than a pigeon's egg; the smaller end is the point of the dibble, the larger having a rod of iron rising from it about half an inch square, and two feet and an half long; the head being received into a cross piece of wood resembling the crutch of a spade or shovel, which forms the handle. The dibbler uses two of these instruments, one in each hand; and, bending over them, walks backward upon the turned furrows, making two rows of holes in each of them. These rows are usually made at the distance of four inches from each other; the holes being two and an half or three inches distant, viz. four in each length of the foot of the dibbler. The great art in making these lies in leaving them firm and smooth in the sides, so that the loose mould may not run in to fill them up before the seeds are deposited. This is done by a circular motion of the hand and wrist; making a semi-revolution every stroke; the circular motion beginning as the bit enters, and continuing until it is entirely disengaged from the mould. The operation is not

perfect unless the dibbles come out clean and wear bright. It is somewhat difficult to make the holes at equal distances; but more especially to keep the two straight and parallel to each other, some practice being required to guide the instruments in such a manner as to correspond exactly with each other; but though couples have been invented to remedy this inconvenience to keep them at a proper distance, the other method is still found to be preferable. A middling workman will make four holes in a second. One dibbler is sufficient for three droppers; whence one man and three children are called a *set*. The dibbler carries on three flags or turned furrows; going on some yards upon one of the outside furrows, and returning upon the other, after which he takes the middle one; and thus keeps his three dibblers constantly employed, and at the same time is in no danger of filling up the holes with his feet. The droppers put in two or three grains of wheat into each hole; but much time and patience is necessary to teach them to perform the business properly and quickly. An expert dibbler will hole half an acre in a day; though one third of an acre is usually reckoned a good day's work. The seed is covered by means of a bush-harrow; and from one bushel to six pecks is the usual quantity for an acre. Notwithstanding the advantages of saving seed, as well as some others which are generally reckoned undeniable, it is asserted by some very judicious farmers, that dibbling of wheat on the whole is not really a profitable practice. It is particularly said to be productive of weeds unless dibbled very thick; which indeed may probably be the case, as the weeds are thus allowed a greater space to vegetate in. Mr Marshall himself is of opinion, that "the dibbling of wheat appears to be peculiarly adapted to rich, deep soils, on which three or four pecks dibbled early may spread sufficiently for a full crop; whereas light, weak, shallow soils, which have lain two or three years, and have become grassy, require an additional quantity of seed, and consequently an addition of labour, otherwise the plants are not able to reach each other, and the grasses of course find their way up between them, by which means the crop is injured and the soil rendered foul."

²⁷ Instruments for dibbling wheat described. The same author has likewise given an account of the method of cultivating wheat practised in other English counties. In the Midland district, including part of Staffordshire, Derbyshire, Warwick, and Leicestershire, we are informed that the species usually sown is that called *Red lammas*, the ordinary red wheat of the kingdom; but of late a species named the *Essex dun*, similar to the *Kentish white cosh* of Norfolk, and the *Hertfordshire brown* of Yorkshire, have been coming into vogue. Cone-wheat, formerly in use in this district, is now out of fashion. Spring wheat is cultivated with remarkable success, owing principally to the time of sowing; viz. the close of April. Our author was informed by an excellent farmer in these parts, that by sowing early, as in the beginning of March, the grain was liable to be shrivelled, and the straw to be blighted; while that which was sown towards the end of April, or even in the beginning of May, produced clean plump corn. At the time he visited this country, however, it seemed to be falling into disre-

Wheat.

²⁸ Objections against the practice of dibbling.

²⁹ Culture of wheat in the midland district.

Wheat.

pute; though he looks upon it, in some situations, especially in a turnip-country, to be eligible. In the ordinary succession in this part of the kingdom, wheat comes after oats; and there is perhaps nine-tenths of the wheat in this district sown upon oat-stubble. Our author has also seen a few examples of wheat being sown upon turf of six or seven year's laying; and several others on clover ley once plowed, as well as some after turnips. The best crops, however, produced in this, or perhaps in any other district, are after summer fallow. The time of sowing is the month of October, little being sown before Michaelmas; and in a favourable season, little after the close of the month. Much seed is sown here without preparation. When any is made use of, it is the common one of brine candied with lime. The produce is very great, the medium being full three quarters per acre, sometimes four or five; and one farmer, in the year 1784, had, on 50 acres of land together, no less than 45 bushels per acre.

³⁰
In the Vale
of Gloucester.

In the Vale of Gloucester; the *cone wheat*, a variety of the *triticum turgidum*, is cultivated, as well as the lammas and spring wheats. It is not, however, the true cone wheat which is cultivated here, the ears being nearly cylindrical; but our author met with the true species in North-Wiltshire. Beans in this country are the common predecessors of wheat, and sometimes pease; but here the farmers cultivate wheat upon every species of soil. The time of sowing is in November and December, and the seed is thought to be sown in sufficient time if it is done before Christmas. In this country it is thought that late sown crops always produce better than those which are sown early; but Mr Marshall accounts for this by the vast quantity of weeds the latter have to encounter, and which the late sown crops escape by reason of the weakness of vegetation at that time of the year. The produce, however, throughout the Vale of Gloucester, is but very indifferent.—Setting of wheat is not practised, but hoeing universally.—In harvesting, Mr Marshall observes, that the grain is allowed to stand until it be unreasonably ripe, and that it is bound up into very small sheaves. The practice of making double bands is unknown in this district; so that the sheaves are no bigger than can be contained in the length of single straw. The inconveniences of this method are, that the crop requires more time to stook, load and unload, and stack: the advantages are, that the trouble of making bands is avoided; and that if rainy weather happens to intervene, the small sheaves dry much sooner than the large ones. Here the crop is cut very high, the stubble and weeds being mown off in swaths for litter soon after the crop is cut; and sometimes sold as high as 5s. per acre.—Mr Marshall is at a loss to account for the little quantity produced in this country; it being hardly possible to derive it from the nature of the soil, almost all of it being proper for the cultivation of the grain.

³¹
Remarkably small
sheaves.

³²
In the Cotswold hills.

Among the Cotswold hills of Gloucester the lammas and cone wheats are sown; and a new variety of the latter was raised not long ago by picking out a single grain of seed from among a parcel. The body is very long and large, but not slightly.—The Cotswold hills are almost proverbial for early sowing of wheat. The general rule is to begin plowing in July, and sowing the first wet weather in August; so that here

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the seed-time and harvest of wheat coincide. If in consequence of this early sowing the blade becomes rank in autumn, it is supposed to be proper to eat it down by putting a large flock of sheep upon it at once. Eating it in spring is considered as pernicious. It is usually weeded with spud-hooks; not hoed, as in the Vale. One instance, however, is mentioned by our author, in which a very thin crop full of seed-weeds was hoed in autumn with uncommon success, occurred in the practice of a superior manager in this district; as well as others in which wheat has been weeded in autumn with great advantage. He also met with another well authenticated instance of the good effect of cutting mildewed wheat while very green. “A fine piece of wheat being lodged by heavy rains, and being soon after perceived to be infected with the mildew, was cut, though still in a perfectly green state: namely, about three weeks before the usual time of cutting. It lay spread abroad upon the stubble until it became dry enough to prevent its caking in the sheaf; when it was bound and set up in shocks. The result of this treatment was, that the grain, though small, was of a fine colour, and the heaviest wheat which grew upon the same farm that season; owing, no doubt, to the thinness of its skin. What appears much more remarkable, the straw was perfectly bright, not a speck upon it.—In this part of the country, the produce of wheat is superior to that in the Vale; but Mr Marshall is of opinion, that the soil is much more fit for barley than wheat.

³³
Instance of
the good effects of
hoeing
wheat.

³⁴
Of cutting
mildewed
wheat very
green.

In Yorkshire, though generally a grass-land country, and where of consequence corn is only a secondary concern, yet several kinds of wheat are cultivated, particularly *Zealand*, *Downy Kent*, *Common White*, *Hertfordshire Brown*, *Yellow Kent*, *Common Red*. All these are varieties of winter wheat; besides which they cultivate also the *spring* or *summer wheat*. Here our author makes several curious observations concerning the raising of varieties of plants. “It is probable (says he), that time has the same effect upon the varieties of wheat and other grains as it has on those of cultivated fruits, potatoes, and other vegetable productions. Thus, to produce an early pea, the garden ermarks the plants which open first into blossom among the most early kind he has in cultivation. Next year he sows the produce of those plants, and goes over the coming crop in the manner he had done the preceding year, marking the earlier of this early kind. In a similar manner new varieties of apples are raised, by choosing the broadest leaved plants among a bed of seedlings rising promiscuously from pippins. Husbandmen, it is probable, have heretofore been equally industrious in producing fresh varieties of corn; or whence the endless variety of winter wheats? If they be naturally of one species, as Linnæus has deemed them, they must have been produced by climature, soil, or industry; for although nature sports with individuals, the industry of man is requisite to raise, establish, and continue a permanent variety. The only instance in which I have had an opportunity of tracing the variety down to the parent individual, has occurred to me in this district.—A man of acute observation, having, in a piece of wheat, perceived a plant of uncommon strength and luxuriance, diffusing its branches on every side, and setting its closely-surrounding neighbours

³⁵
Cultivation
of wheat in
Yorkshire.

³⁶
Observations on raising
varieties of
plants.

Wheat.

hours at defiance; marked it, and at harvest removed it separately. The produce was 15 ears, yielding 604 grains of a strong-bodied liver-coloured wheat, different, in general appearance, from every other variety he had seen. The chaff was smooth, without awns, and of the colour of the grain; the straw stout and reedy. These 604 grains were planted singly, nine inches asunder, filling about 40 square yards of ground, on a clover stubble, the remainder of the ground being sown with wheat in the ordinary way; by which means extraordinary trouble and destruction by birds were avoided. The produce was two gallons and an half, weighing 20½ lb. of prime grain for seed, besides some pounds of seconds. One grain produced 35 ears, yielding 1235 grains; so that the second years produce was sufficient to plant an acre of ground.—What deters farmers from improvements of this nature is probably the mischievousness of birds; from which at harvest it is scarcely possible to preserve a small patch of corn, especially in a garden or other ground situated near an habitation; but by carrying on the improvement in a field of corn of the same nature, that inconvenience is got rid of. In this situation, however, the botanist will be apprehensive of danger from the floral farina of the surrounding crop. But from what observations I have made, I am of opinion his fears will be groundless. No evil of this kind occurred, though the cultivation of the above variety was carried on among *white* wheat. But this need not be brought as an evidence: it is not uncommon here to sow a mixture of red and white wheats together; and this, it is confidently asserted, without impairing even the colour of either of them. The same mode of culture is applicable to the improvement of varieties; which perhaps would be more profitable to the husbandman than raising new ones, and more expeditious.”

37
Preparation
of wheat
with arse-
nic.

In Yorkshire a very singular preparation of seed-wheat prevails, *viz.* the steeping it in a solution of *arsenic*, as a preventative of smut. Marshall was informed by one farmer, that he had made use of this preparation for 20 years with success, having never during that long space of time suffered any sensible injury from smut. Our author seems inclined to believe the efficacy of this preparation; but thinks there may be some reason to apprehend danger in the use of such a pernicious mineral, either through the carelessness of servants, or handling of the seed by the person who sows it. The farmer above mentioned, however, during all the time he used it, never experienced any inconvenience either to himself, the seedman, or even to the poultry; though these last, we should have thought, would have been peculiarly liable to accidents from arsenicated seed.—The preparation is made by pounding the arsenic extremely fine, boiling it in water, and drenching the seed with the decoction. “In strictness (says Mr Marshall), the arsenic should be levigated sufficiently fine, to be taken up and washed over with water, reducing the sediment until it be fine enough to be carried over in the same manner.—The usual method of preparing the liquor is to boil one ounce of white arsenic, finely powdered, in a gallon of water, from one to two hours; and to add to the decoction as much water or stale urine as will increase the liquor to two gallons.—In this liquor the seed is, or ought to be, immersed, stirring it about in such a

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manner as to saturate effectually the downy end of each grain.—This done, and the liquor drawn off, the seed is considered as fit for the seed-basket, without being candied with lime, or any other preparation.—A bushel of wheat has been observed to take up about a gallon of liquor. The price of arsenic is about 6d. per pound; which on this calculation will cure four quarters of seed. If no more than three quarters be prepared with it, the cost will be only a farthing per bushel; but to this must be added the labour of pounding and boiling. Nevertheless, it is by much the cheapest, and perhaps, upon the whole (adds Mr Marshall), the best preparation we are at present acquainted with.—In this county it is believed that a mixture of wheat and rye, formerly a very common crop in these parts, is never affected with mildew; but our author does not vouch for the truth of this assertion.

Barley.

SECT. II. Barley.

THE county of Norfolk, according to Mr Marshall, ³⁸ is peculiarly adapted to the cultivation of this grain, ^{Cultivation} of barley in ^{Norfolk.} the strongest soil not being too heavy, and the lightest being able to bear it; and so well versed are the Norfolk farmers in the cultivation of it, that the barley of this county is desired for seed throughout the whole kingdom.—It is here sown after wheat or turnips; and in some very light lands it is sown after the second year's lay.—After wheat, the seed-time of the latter being finished, and the stubble trampled down with bullocks, the land is ploughed with a shallow furrow for a winter-fallow for barley. In the beginning of March the land is harrowed and cross-ploughed; or if it be wet, the ridges are reversed. In April it receives another ploughing lengthways; and at seed-time it is harrowed, rolled, sowed, and the surface rendered as smooth and level as possible.—After turnips the soil is broken up as fast as the turnips are taken off; if early in winter by *rice-balking*, a practice already explained*; but if ^{See n° 21.} late, by a plain plowing. It is common, if time will permit, to plough three times; the first shallow, the second full, and the third a mean depth; with which last the seed is plowed in. Sometimes, however, the ground is ploughed only once, and the seed sown above; but more frequently by three ploughings, though perhaps the farmer has not above a week to perform them in.—After lay, the turf is generally broken by a winter fallow, and the soil treated as after wheat.

This grain is seldom manured for, except when sown after lay, when it is treated as wheat. No manure is requisite after turnips or wheat, if the latter has been manured for. If not, the turnip-crop following immediately, the barley is left to take its chance, unless the opportunity be embraced for winter-marling.

Little barley is sown by the Norfolk farmers before the middle of April, and the seed-time generally continues till the middle of May; though this must in some measure depend on the season; “which (says Mr Marshall) is more attended to in Norfolk than perhaps in all the world beside.” In the very backward spring of 1782, barley was sown in June with success. No preparation is used. It is all sown broad-cast, and almost all under furrow; that is, the surface having been smoothed by the harrow and roller, the seed is

5 A

sown

Barley.

sown and plowed under with a shallow furrow; but if the season be wet, and the soil cold and heavy, it is sometimes sown above; but if the spring be forward, and the last piece of turnips eaten off late, the ground is sometimes obliged to be plowed only once, and to be sown above; though in this case Mr Marshall thinks it the most eligible management, instead of turning over the whole thickness of the soil, to *two-furrow* it, and sow between. This is done by only skimming the surface with the first plough, sowing the seed upon this, and then covering it with the bottom-furrow brought up by the second plough. Three bushels are usually sufficient for an acre.

The barley, as well as the wheat, in Norfolk, is allowed to stand till very ripe. It is universally mown into swath, with a small bow fixed at the heel of the scythe. If it receive wet in the swath in this country, it is not turned, but *lifted*; that is, the heads or ears are raised from the ground, either with a fork or the teeth of a rake, thereby admitting the air underneath the swaths; which will not fall down again to the ground so close as before, so that the air has free access to the under side: and this method of lifting is supposed not to be inferior to that of turning, which requires more labour, besides breaking and ruffling the swaths.

³⁹
In the Vale
of Gloucester.

In the Vale of Gloucester the quantity of barley cultivated is very inconsiderable; the only species is the common long-eared barley, *hordeum zeocriton*. In this county the grain we speak of is used, on the every year's lands, as a cleansing crop. It is sown very late, *viz.* in the middle or end of May; sometimes the beginning or even the middle of June. The reason of this is, that the people of the Vale think, that if a week or ten days of fine weather can be had for the operation of harrowing out couch, and if after this a full crop of barley succeed, especially if it should fortunately take a reclining posture, the business of fallowing is effectually done, inasmuch that the soil is cleaned to a sufficient degree to last for a number of years. A great quantity of seed is made use of, *viz.* from three to four bushels to an acre; under the idea, that a full crop of barley, especially if it lodge, smother all kinds of weeds, couch-grass itself not excepted. Our author acknowledges this effect in some degree, but does not recommend the practice. "If the land (says he) be tolerably clean, and the season favourable, a barley fallow may no doubt be of essential service. But there is not one year in five in which even land which is tolerably clean can be sown in season, and at the same time be much benefited by it for future crops." The barley in this county is all hand-weeded. It is harvested loose, mown with the naked scythe, lies in swath till the day of carrying, and is cocked with common hay forks. The medium produce is three quarters per acre. Its quality is preferable to that of the hill-barley.

⁴⁰
In Cotswold.

The common long-eared species is sown among the Cotswold hills. It is sown in the latter end of March and beginning of April, in the quantity of three bushels to an acre, producing from 20 bushels to four quarters to an acre; "which (says our author) is a low produce. It must be observed, however, that this produce is from land deficient in tillage; and that barley delights in a fine pulverous tilth."

In the Midland district they cultivate two species of barley, *viz.* the *zeocriton* or common long-eared, and the *distichon* or sprat barley; the latter not being of more than 50 years standing, but the former of much older date. The sprat is the more hardy, and requires to be more early sown; but the long-ear yields the better produce. It succeeds wheat and turnips; but on the strong lands of this district, the crop after wheat is much less productive, as well as less certain, than after turnips; which circumstance is likewise observed in Norfolk. It is sometimes also sown with success upon turf. When sown after wheat, the soil is winter-fallowed by three ploughings; the first lengthways in November; the second across in March; the last, which is the seed-plowing, lengthways. Between the two last ploughings the soil is harrowed, and the twitch shaken out with forks; after which it is left loose and light to die upon the surface, without being either burnt or carried off. After turnips the soil has commonly three ploughings; the reason of which is, that the turnips being commonly folded off with sheep, the soil, naturally of a close texture, receives a still greater degree of compactness, which it is proper to break down, and render it porous. The seed-time is the two last weeks of April and the first of May; from two bushels and a half to three bushels an acre, sometimes even as much as four bushels; the produce very great, sometimes as high as seven or even eight quarters an acre; but the medium may be reckoned from four to four and an half quarters. Mr Marshall remarks, that the culture of barley is extremely difficult. "Something (says he) depends on the nature of the soil, much on the preparation, much on the season of sowing, and much on harvesting. Upon the whole, it may be deemed, of corn-crops, the most difficult to be cultivated with certainty."

⁴²
Culture of
barley difficult.

In Yorkshire there are four kinds of barley cultivated, *viz.* the *zeocriton* or long-eared; the *distichon* or sprat; the *vulgare*, big, four-rowed or spring-barley; and the *hexastichon*, six-rowed or spring-barley. The first and third sorts are principally cultivated; the winter-barley is as yet new to the district. Battledoor-barley was formerly very common, but is now almost entirely disused. Mr Marshall observes, that less than a century ago, barley was not saleable until it was malted; there were neither maltsters nor public houses, but every farmer malted his own grain, or sold it to a neighbour who had a malt-kiln. Brakes cut from the neighbouring commons were the fuel commonly used upon this occasion, and a certain day for cutting them was fixed, in order to prevent any one from taking more than his share. The case is now totally reversed; even public malt-houses being unknown, and the business of malting entirely performed by maltsters, who buy the barley from the farmer, and sell him what malt he may want for his family.

SECT. III. Oats.

In Norfolk this kind of grain is much less cultivated than barley; and the only species observed by Mr Marshall is a kind of white oat, which grows quickly, and seems to be of Dutch extraction. They are cultivated occasionally on all kinds of soils; but more especially on cold heavy land, or on very light, unproductive.

⁴⁴
Norfolk
cultivation of
oats.

Oats.

ductive, heathy, soils. They most frequently succeed wheat or lay-ground barley: "but (says our author) there are no established rules respecting any part of the culture of this time-serving crop." The culture of the ground is usually the same with that of barley; the ground generally undergoing a winter fallow of three or four ploughings, though sometimes they are sown after one ploughing. They are more commonly sown above furrow than barley. The seed-time is made subservient to that of barley, being sometimes sooner and sometimes later than barley seed-time: and Mr Marshall observes, that he has sometimes seen them sown in June; it being observable, that oats sown late ripen earlier than barley sown at the same time. The quantity of seed in Norfolk is from four to five bushels per acre; but he does not acquaint us with the produce. He mentions a very singular method of culture sometimes practised in this county, viz. ploughing down the oats after they begin to vegetate, but before they have got above ground; which is attended with great success, even though the ground is turned over with a full furrow. By this method weeds of every kind are destroyed, or at least checked in such a manner as to give the crop an opportunity of getting above them; and the porosity communicated to the soil is excellently well adapted to the infant-plants of barley; which probably might frequently receive benefit from this operation.

45
Method of
ploughing
down oats.

46
Wild oats
a weed in
the Vale of
Gloucester.

In the Vale of Gloucester, Mr Marshall observes, that the wild oat is a very troublesome weed, as well as in Yorkshire; and he is of opinion, that it is as truly a native of Great Britain as any other arable weed, and is perhaps the most difficult to be extirpated. It will lie a century in the soil without losing its vegetative quality. Ground which has lain in a state of grass time immemorial, both in Gloucester and Yorkshire, has produced it in abundance on being broken up. It is also endowed with the same seemingly instinctive choice of seasons and state of the soil as other seeds of weeds appear to have. Hence it is excessively difficult to be overcome; for as it ripens before any crop of grain, it sheds its seed on the soil, where the roughness of its coat probably secures it from birds. The only methods of extirpating this plant are fallowing, hoeing, and handweeding, where the last is practicable, after it has shot its panicle.

47
Oats not
cultivated
in the Vale
of Gloucester.

No oats are cultivated in the Vale of Gloucester; though the wild oat grows every where as already said. Mr Marshall is of opinion that it is better adapted to oats than to barley. The reason he assigns for the preference given to the latter is, that in this part of the country the monks were formerly very numerous, who probably preferred *ale* to oaten cake.—He now, however, recommends a trial of the grain on the stronger cold lands in the area of the Vale, as they seldom can be got sufficiently fine for barley. The fodder from oats he accounts much more valuable than that from barley to a dairy country; and the grain would more than balance in quantity the comparative difference in price.

48
Cultivation
in the Mid-
land di-
strict.

In the midland district the *Poland* oat, which was formerly in vogue, has now given place to the *Dutch* or *Friezeland* kind. It is constantly sown after turf; one ploughing being given in February, March, or April. The seed-time is the latter end of March and begin-

ning of April, from four to seven bushels an acre; the produce is in proportion to the seed, the medium being about six quarters.

Pease.

49
In York-
shire.

In Yorkshire the Friezeland oats are likewise preferred to the Poland, as affording more straw, and being thinner skinned than the latter. The *Siberian*, or *Tartarian* oat, a species unnoticed by Linnæus, is likewise cultivated in this country: the *reed* oat is known, but has not yet come into any great estimation. The grain is light, and the straw too ready to be affected by cattle.

Oats are particularly cultivated in the western division of the Vale of Yorkshire; where the soil is chiefly a rich sandy loam, unproductive of wheat. Five or six bushels, or even a quarter of oats, are sometimes sown upon an acre; the produce from seven to ten quarters.—In this country they are threshed in the open air, and frequently even upon the bare ground, without even the ceremony of interposing a cloth. The reasons assigned for this seemingly strange practice are, that if pigs and poultry be employed to eat up the grain which escapes the broom, there will be little or no waste. Here the market is always very great for new oats, the manufacturing parts of West Yorkshire using principally oat-bread. The only objection to this practice is the chance of bad weather; but there is always plenty of straw to cover up the threshed corn, and it is found that a little rain upon the straw does not make it less agreeable to cattle.

50
Singular
method of
threshing.

In an experiment made by Mr Bartley near Bristol, Bath Papers, vol. iv. p. 281. upon black oats, we are informed that he had the prodigious increase of $98\frac{1}{2}$ Winchester bushels from four on the acre: the land was a deep, mellow, sandy loam. It had carried potatoes the former year, and received one ploughing for a winter fallow. Another ploughing was given it in February, and the seed was sown on the 27th and 28th of the month. The success of the experiment was supposed to be owing partly to the early sowing and partly to a good deep tillage.

51
Experiment
on black
oats.

SECT. IV. Pease.

In the Bath Papers, vol. i. p. 148. we have an account of the success of an experiment by Mr Pavier near Taunton, on sowing pease in drills, a method mentioned under the article AGRICULTURE, n^o 150. The scale on which this experiment was made, however, being so small, it would perhaps be rash to infer from it what might be the event of planting a large piece of ground in the same manner. The space was only 16 square yards, but the produce so great, that by calculating from it, a statute acre would yield 600, or at the least 500 pecks of green pease at the first gathering; which, at the high price they bore at that time in the county about Taunton, viz. 16d. per peck, would have amounted to 33l. 6s. 8d. On this the Society observe, that though they doubt not the truth of the calculation, they are of opinion, that such a quantity as 500 or 600 pecks of green pease would immediately reduce the price in any country market. "If the above-mentioned crop (say they) were sold only at nine pence per peck, the farmer would be well paid for his trouble." In a letter on the drill husbandry by Mr Whitmore, for which the thanks of the society were returned, he informs us, that drilled pease must

52
On setting
pease in
drills.

Pease.

53
Pease must
not be
sown too
often on
the same
spot.

† See Agri-
culture, n^o
150.

54
Mr Mar-
shall's ob-
servations.

not be sown too thin, or they will always be foul; and in an experiment of this kind, notwithstanding careful hoeing, they turned out so foul, that the produce was only eight bushels to the acre.—From an experiment related in the 5th volume of the same work, it appears that pease, however meliorating they may be to the ground at first, will at the last totally exhaust it, at least with regard to themselves. In this experiment they were sown on the same spot for ten years running. After the first two years the crop became gradually less and less, until at last the seed would not vegetate, but became putrid. Strawberries were then planted without any manure, and yielded an excellent crop.

On the Norfolk culture of pease*, Mr Marshall makes two observations. "Lays are seldom ploughed more than once for pease; and the seed is in general dibbled in upon the flag of this one ploughing. But stubbles are in general broken by a winter-fallow of three or four ploughings; the seed being sown broadcast, and ploughed in about three inches deep with the last ploughing."—In the Vale of Gloucester they are planted by women, and hoed by women and children, once, twice, and sometimes thrice; which gives the crop, when the soil is sufficiently free from root-weeds, the appearance of a garden in the summer time, and produces a plentiful crop in harvest. The distance between the rows varies from 10 to 14 inches, but 12 may be considered as the medium; the distance in the rows two inches. In the Cheltenham quarter of the district, they set the peas not in continued lines, but in clumps; making the holes eight or ten inches distant from one another, putting a number of pease into each hole. Thus the hoe has undoubtedly greater freedom; all the disadvantage is, that in this case the soil is not so evenly and fully occupied by the roots as when they are disposed in continued lines.—In Yorkshire it is common to sow beans and grey pease together, under the name of *blendings*; and sometimes fitches (probably, says Mr Marshall, a gigantic variety of the *crvum lens*) are sown among beans. Such mixtures are found to augment the crop, and the different species are easily separated by the sieve.

These are the most remarkable particulars concerning the culture of corn not taken notice of under AGRICULTURE: but besides that kind of vegetables called GRAIN, there is a number of others very important both for the use of men and cattle, of which we must now treat particularly.

SECT. V. Potatoes.

55
Are not
prejudicial
to man-
kind.

THESE, next to the different kinds of grain, may be looked upon as the crop most generally useful for the husbandman; affording not only a most excellent food for cattle, but for the human species also; and are perhaps the only substitute that could be used for bread with any probability of success. In the answer by Dr Tissot to M. Linguet already mentioned, the former objects to the constant use of them as food; not because they are pernicious to the body, but because they hurt the faculties of the mind. He owns, that those who eat maize, potatoes, or even millet, may grow tall and acquire a large size; but doubts if any such ever produced a literary work of merit. It does not, however, by any means appear, that the very ge-

neral use of potatoes in our own country has at all impaired either the health of body or vigour of mind of its inhabitants. The question then, as they have already been shown to be an excellent food for cattle, comes to be merely with regard to the profit of cultivating them; and this seems already to be so well determined by innumerable experiments, as well as by the general practice of the country, that no room appears left for doubt. In the Transactions of the Society for the encouragement of Arts, a number of experiments are related by Mr Young on that kind called the *clustered* or *hog potato*, which he strongly recommends as food for the poor, in preference to the kidney or other more expensive kinds. The following is the result of the most remarkable of his experiments.

In the first week of March 1780, two acres and a quarter of barley stubble were sown with the cluster potatoe, which appeared on the 23d of May. A sharp frost on the 7th of June turned them as black as they usually are by the frosts of November and December. In time, however, they recovered; and by the end of October produced 876 bushels from the $2\frac{1}{4}$ acres; which, when cleaned, were reduced to 780, or 350 bushels per acre; thus affording, when valued only at 6d. per bushel, a clear profit of 7 l. 14s. 4d. per acre. The experiment, however, in his opinion, would have been still more profitable, had it not been for the following circumstances. 1. The soil was not altogether proper. 2. The crop was grievously injured by the frost already mentioned, which, in our author's opinion, retarded the growth for about six weeks. 3. The dung was not of his own raising, but purchased; which cannot but be supposed to make a great difference, not only on account of the price, but likewise of the quality, as happened to be the case at present. He is of opinion, however, that potatoes, at least this kind of them, are an exhausting crop. Having sown the field after this large crop of potatoes with wheat, his neighbours were of opinion that it would be too rank; but so far was this from being the case, that the wheat showed not the least sign of luxuriance, nor the least superiority over the parts adjacent which were sown without dung. He was willing to account for this by the poverty of the dung, and the severe cropping which the ground had undergone while in the possession of the former tenant. In another experiment, however, in which the ground had been likewise exhausted by severe cropping, the succeeding crop of wheat showed no luxuriance; so that the former suspicion of the exhausting quality of the cluster-potato was rather confirmed. The ground was a fine turnip loam; but though the produce was even greater than in the former case, viz. 356 bushels from an acre, the profit was much less, viz. only 4 l. 15s. 6d. An acre of ley-ground was sown at the same time with the turnip-loam, but the produce from it was only 200 bushels. Mr Young supposes that the produce would have been greater if the potatoes had been planted with an iron dibble, as the turf, in ploughing, lay too heavy upon the seed. A few rows of other potatoes, planted along with the clustered kind, did not vegetate at all; which shows that the latter have a more powerful vegetative faculty.

Having succeeded so well with his experiments on this kind of potato hitherto, Mr Young determined to try scale.

Potatoes.

56
Mr
Young's
experi-
ments on
the clu-
stered-po-
tato.

57
Experi-
ments on
a larger
try scale.

Potatoes.

Potatoes.

try the culture of them upon a larger scale; and therefore, in the year 1782, sowed 11 acres: but being obliged to commit the care of sowing them to an ignorant labourer, his unskilfulness, together with the excessive cold and moisture of that season, so diminished the produce, that he had only a single acre out of the whole. This produced 180 bushels, which yielded of clear profit 4 l. 2s. 6d. From this experiment he draws the following conclusions: 1. "That the poor loam, on which these potatoes were sown, will yield a crop of cluster-potatoes, though not of any other kind. 2. That the manure for potatoes ought to be carted and spread upon all soils inclinable to wet before the planting season, either in autumn preceding, or else during a hard frost." In 1783 he succeeded still worse; for having that year sown three acres and a half, the profit did not exceed 11s. 4d. per acre. The produce was about 224 bushels per acre. He gives two reasons for the failure of this crop: 1. The clustered-potato thrives best in wet years; but the summer of 1783 was dry and hot. 2. The spring frost, by interrupting the hoeing, not only greatly raised the expences, but very much injured the crop by encouraging the growth of weeds. Barley was sown after the last crop, and produced well: so that our author thinks the potatoes seem to be a better preparation for spring corn than wheat. His experiment in 1784 produced a clear profit of 2 l. 0s. 4d.; the produce being 250 bushels per acre. Still, however, an error was committed, by employing an old man and woman to cut the sets; by whose unskilfulness there were many great gaps among the potatoes as they came up; so that, on the whole, he reckons that he thus lost from 500 to 800 bushels. On the whole, however, his opinion is favourable to the cluster-potato. "With small crops (says he), and at the low rate of value which is produced by consuming them at home, they are clearly proved to be a crop which will pay the expence of manuring, and very ample tillage and hoeing. This is, after all, the chief object of modern husbandry; for if a man can rely upon this potato for the winter consumption of his yard in fattening or keeping hogs, in feeding his horses, and fattening his bullocks, he has made one of the greatest acquisitions that can be desired; since he can do all this upon land much too stiff and wet for turnips; houses his crops before the winter rains come on; and consequently without doing any of that injury to his land which the turnip culture is known to entail, and from which even cabbages are not free. Those who know the importance of winter-food on a turnip farm, cannot but admit the magnitude of this object on wet soils."

58
Conclusion
favourable
to the cul-
tivation of
this kind.

59
Mr Marshall's re-
marks.

60
On the
surl.

Mr Marshall, in his Rural Economy of Yorkshire, has several very interesting remarks on the potato. Its varieties, he says, are endless and transitory. The rough-skinned Russia potato, which was long a favourite of the Yorkshire farmers, he is of opinion, has now no longer an existence more than many others which flourished for a time. "There is some reason to believe (says he) that the disease which has of late years been fatal to the potato-crop in this and in other districts, under the name of CURLED TOPS, has arisen from too long a continuance of declining varieties. Be this as it may, it appears to be an established opinion here, that *fresh varieties*, raised from seed, are not liable

to that disease." Our author, however, does not look upon this to be a fact absolutely established; though one instance fell under his observation, in which its removal was in all probability owing to the introduction of new varieties. It made its appearance between 40 and 50 years ago, and spread in some degree over the whole kingdom. In some places it continued but a short time, so that its effects are almost forgotten. It is seldom obvious at the first coming up of the plant, but attacks them as they increase in size; the entire top becoming dwarfish and shrivelled as if affected by drought or loaded with insects: they nevertheless live and increase, though slowly, in size; but the roots are unproductive. Some crops have been almost wholly destroyed by this disease. In Yorkshire the Morelands are in a manner free from it, but the Vale is in some measure infected. Plants procured from the Morelands remain free from it in the Vale the first year; but, being continued, become liable to the disease. Where the attack has been partial, weeding out the diseased plants as they failed, is said to have had a good effect; and it is said the Morelanders got rid of the disease by this means.

In Yorkshire, some intelligent husbandmen are acquainted with the method of raising potatoes from seed; which is as follows. "In autumn, when the apples are beginning to fall spontaneously, they are gathered by hand, and preserved among sand until the spring, when they are mashed among the sand or among fresh mould; separating the seeds and mixing them evenly with the mould. As soon as the spring frosts are judged to be over, they are sown in fine garden mould; and as fast as the plants get into rough leaf, and are strong enough to be handled without injury, they are transplanted into another bed of rich mould in rows, which are kept clean during summer. In autumn, bunches of small potatoes are found at the roots of these plants; varying in size, the first year from an hazel-nut to that of a crab. These being planted next spring, produce potatoes of the middle size; but they do not arrive at their fullest bulk until the third or fourth year. Where the use of the stove or the garden frame can be had, this process may be shortened. The seeds being sown within either of these early in the spring, the plants will be fit to be planted out as soon as the frosts are gone; by which means the size of the roots will be much increased the first year, and will in the second rise early to perfection."

In the 4th volume of the Bath Papers, Dr Anderson relates some experiments made on potatoes raised from seed. The first year they were of different sizes, from a pigeon's egg to that of a small pea. On planting these next year, it was invariably found, that the largest potatoes yielded the largest crop; and the same happened the third, when a few showed blossom; but not even these had bulbs equal to what would have been produced by very large potatoes. Whence he concludes, that it is impossible to assign any time in which these seedling potatoes will arrive at what is called *perfection*; but that it must depend very much on the nature of the soil and the culture bestowed upon them. From the practice of the Yorkshire farmers, however, and even from the experiments of the Doctor himself, it is evident, that potatoes raised in this

61
Method of
raising va-
rieties from
seed.

62
Dr Anderson's expe-
riments.

Potatoes.
63
Whether
potatoes de-
generate.

this way will at last grow to the usual size, as during the three years in which his experiments were continued they constantly increased in bulk. Dr Anderson likewise contends, that there is no reason for supposing that potatoes raised from bulbs in the ordinary way degenerate, or require to be renewed by seminal varieties; and he instances the universal practice of Britain and Ireland for a great number of years past. But this may be accounted for from an observation of Mr Marshall's, that varieties of potatoes, like those of corn, are partial to particular soils and situations. Hence, by transplanting all the different varieties of potatoes into all possible soils and situations, as has been done within this last century in the islands of Britain and Ireland, these varieties have continued for a much longer time than they would otherwise have done. In Yorkshire, Mr Marshall tells us, that "the old favourite forts were driven until some of the individual plants barely produced their seed again." It is evident, therefore, that there is a necessity from time to time of renewing them from seed; though it deserves well to be considered whether it would not be more eligible to choose the seed from a plant in full vigour than from that which is so far degenerated that it can scarce produce its seed. "Potatoes raised from seed (says Mr Marshall) are a miscellany of endless varieties. Sometimes these varieties are planted miscellaneously; sometimes particular varieties are selected. In selecting varieties from seedling potatoes, two things are to be attended to; the intrinsic quality of the potato, and its productiveness. If these two desirable properties can be found in one plant, the choice is determined. To this species of attention and industry we are indebted for the many valuable kinds which have been and now are distributed throughout the island. It is observable, however, that varieties of potatoes, like those of corn, are partial to particular soils and situations. Hence the propriety of husbandmen raising potatoes from seed; as by this means they obtain, with a degree of moral certainty, a sort adapted to their own particular soils and situations. Whoever has attended closely to the work of taking up potatoes, must have observed the great inequality in the productiveness of individual plants. The difference in the produce of adjoining roots, where no disparity of soil can influence, will sometimes be three or four fold. Hence it is evident, that each variety has its *sub-varieties*; through whose means it can hardly be doubted the parent variety may be improved, and its continuance be prolonged. Thus the farmer has another mean in his power of improving the quality and productiveness of his potatoe-crop, by improving varieties; or, in other words, selecting sub-varieties, superiorly adapted to his soil and situation."

With regard to the proper mode of cultivating this valuable root, it is so fully explained under the article AGRICULTURE, no 158 *et seq.* that nothing farther seems requisite to be said upon it in this place. We shall therefore proceed to

SECT. VI. Of Carrots.

THESE have been greatly recommended as food for cattle, and in this respect bid fair to rival the potato; though, with regard to the human species, they are far

inferior. The profit attending the cultivation of them, however, appears to be much more doubtful than that of potatoes. Mr Arthur Young informs us, that from *Norden's Surveyor's Dialogue*, published in 1600, it appears, that carrots were commonly cultivated at that time about Orford in Suffolk, and Norwich in Norfolk; and he remarks, that the tract of land between Orford, Woodbridge, and Saxmundam, has probably more carrots in it than all the rest of the kingdom put together." In 1779, few farmers in these parts had less than five or six acres; many from 10 to 20; and one had 36 acres: the straight, handsome, and clean roots were sent at 6d. *per* bushel to London; the rest being used at home, principally as food for horses. In other counties, he observes, the culture of carrots has not extended itself; that some have begun to cultivate them in place of turnips, but have soon desisted; so that the culture seems in a manner still confined to the angle of Suffolk, where it first began. In attempting to investigate the cause of this general neglect, he observes, that "the charge of cultivation is not so great as is commonly imagined, when managed with an eye to an extensive culture, and not a confined one for one or two particular objects." Two acres which our author had in carrots cost L. 3 : 17 : 6 *per* acre, including every expence; but had not the summer been dry, he observes, that his expences might have been much higher; and when he tried the experiment 15 years before, his expences, through inadvertence, ran much higher. His difficulty this year arose chiefly from the *polygonum aviculare*, the predominant weed, which is so tough that scarcely any hoe can cut it. Some acres of turnips which he cultivated along with the carrots were all eaten by the fly; but had they succeeded, the expence of the crop would have been 18s. 5d. less *per* acre than the carrots. "But (adds our author) if we call the superiority of expence 20s. an acre, I believe we shall be very near the truth: and it must at once be apparent that the expence of 20s. *per* acre cannot be the cause of the culture spreading so little; for, to answer this expence, there are favourable circumstances, which must not be forgotten. 1. They (the carrots) are much more impenetrable to frost, which frequently destroys turnips. 2. They are not subject to the distempers and accidents which frequently affect turnips; and they are sown at a season when they cannot be affected by drought, which frequently also destroys turnips. 3. They last to April, when stock, and especially sheep-farmers are so distressed, that they know not what resource to provide. 4. The culture requisite for turnips on a sandy soil, in order to destroy the weeds, destroys also its tenacity, so that the crop cannot thrive; but with carrots the case is otherwise.—Hence it appears, that the reason why the cultivation of carrots is still so limited, does not arise from the expence, but because the value is not ascertained. In places where these roots can be sent to London, or sold at a good price, the tops being used as food for cattle, there is not the least doubt that they are profitable; and therefore in such places they are generally cultivated: but from the experiments as yet laid before the public, a satisfactory decisive knowledge of the value is not to be gained. The most considerable practice, and the only one of common farmers upon a large scale, is that of the sands of Woodbridge: but here they have the benefit of a London market, as

Carrots.
Bath Papers, vol. ii. p. 1.

64
Much cultivated in Suffolk and part of Norfolk.

65
Why the culture has not extended itself.

66
Inferiority of carrots to turnips.

67
Difficulty of ascertaining the value.

Carrots. already mentioned. Amongst those whose experiments are published, Mr Billingsley ranks foremost. Here again the value of carrots is rather depreciated than advanced; for he raised great crops, had repeated experience upon a large scale of their excellence in fattening oxen and sheep; feeding cows, horses, and hogs; and keeping ewes and lambs in a very superior manner, late in the spring, after turnips were gone: but notwithstanding these great advantages, he gave the culture up; from which we may conclude a deficiency in value. "In several experiments (though not altogether determinate), I found the value, upon an average of all applications, to be 13d. a bushel, heaped measure; estimating which at 70 lb. weight, the ton is L. 1, 14s." The following are the valuations of several gentlemen of the value of carrots in the way of fattening cattle:

	per ton.
Mr Mellish of Blyth, a general valuation of horses, cows, and hogs, -	L. 1 0 0
Mr Stovin of Doncaster, hogs bought lean, fattened, and sold off, -	4 0 0
Mr Moody of Ratford, oxen fattened, and the account accurate, -	1 0 0
Mr Taylor of Bifrons, saving of hay and corn in feeding horses, -	1 0 0
Mr Le Grand of Ash, fattening wethers, -	0 13 9
Sir John Hoby Mill of Bisham, fattening hogs, -	1 6 0
Mr Billingsley, for fattening hogs, -	1 13 6

Some other gentlemen whom our author consulted, could not make their carrots worth any thing: so that, on the whole, it appears a matter of the utmost doubt, so contradictory are the accounts, whether the culture of carrots be really attended with any profit or not. Thus Sir John Mill, by fattening hogs, makes L. 1, 6s. and Mr Stovin L. 4; but others could not fatten hogs upon them at all: and some of Mr Young's neighbours told him, that carrots were good for nothing except to *scour* hogs to death. The experiment of Mr Le Grand upon wethers appeared to be made with the greatest accuracy; yet two circumstances seem to militate against it. 1. The sheep were put lean to them; whereas it is a fact well known, that if they are not half fat when put to turnips, no profit will result; and it is possible that the case may be the same with carrots. 2. He gave them also as much fine hay as they would eat.

68
New experiments recommended.

In this uncertain state of the matter, the only thing that can be done is to make a number of experiments with as much accuracy as possible, in order to ascertain the real value *per ton*: and our author endeavours to show, that there is no danger of losing much by experiments of this kind. "I have shown (says he), that they are to be cultivated for L. 4 *per acre*, left on the ground for sheep. Suppose the crop only two bushels at 70 lb. each, *per rod*, 320 *per acre*, or ten tons; it will readily be agreed, that such a produce is very low to calculate upon, since 20 tons are common among carrot-cultivators. It appears from Mr Le Grand's experiments, that a wether worth L. 2, 5s. eats 16 lb. of carrots, and four pounds of hay *per day*: dropping the hay, and calculating for sheep of less than half that size (which are much more common), it will be perhaps an ample allowance to assign them 12 lb. of carrots a day. If they are, as they ought to be, half fat when

put up, they will be completely fattened in 100 days. At this rate, 20 wethers will, in 100 days, eat 11 tons, or very little more than one moderate acre. Now, let it be remembered, that it is a good acre of turnips which will fatten eight such wethers, the common Norfolk calculation: from which it appears, that one acre of carrots are, for this purpose, of more value than two of turnips.—Further, let us suppose horses fed with them instead of oats: to top, cart, and pack up, 10 tons of carrots, I know may be done for 20s.—an acre, therefore (other expences included) costs L. 5. Fifty pounds weight of carrots are an ample allowance for a horse a day: ten tons, at that rate, last three horses for five months. But this L. 5 laid out in oats at 16s. *per quarter*, will purchase little more than six quarters; which will last three horses, at two bushels each *per week*, no more than two months; a most enormous inferiority to the carrots."

69
Experiment on feeding lambs with them.

In the same volume, p. 187. Mr Young gives an account of another experiment made by himself on the feeding of lambs with carrots. The quantities they eat varied excessively at different times; thirty-six of them consumed from five to ten bushels *per day*; but on an average, he rates them at four bushels of 56 pounds *per day*. In all they consumed 407 bushels from November to April, when they were sold and killed fat. At putting upon the carrots, the lambs were valued only at L. 18, but were sold in April at L. 25, 4s.; so that the value of the carrots was exactly L. 7, 4s. or about 4d. *per bushel*. This price he supposes to be sufficient to induce any one to attempt the culture of carrots, as thus he would have a clear profit of 40s. *per acre*; "which (says he) is greater than can attend the best wheat crops in this kingdom." The land on which the carrots grew was sown next year with barley, and produced the cleanest in the parish; which contradicts an assertion our author had heard, that carrots make land foul. The grass upon which the sheep were fed with the carrots, and which amounted to about an acre, was very little improved for the crop of hay in 1781, owing to the dryness of the season; but in 1782 was greatly superior to the rest of the field, and more improved in quantity: "for, instead of an indifferent vegetation, scattered thick with the *centaurea scabiosa*, *filago*, *rhinanthus*, *crista galli*, and *linum catharticum*, with other plants of little value, it encouraged a very beautiful sheet of the best plants that can appear in a meadow, *viz.* the *lathyrus pratensis*, *achillea millefolium*, *trifolium repens*, *trifolium ochroleucum*, *trifolium alpestre*, and the *plantago lanceolata*."

70
Carrots compared with cabbages.

In the same volume of the Bath Papers, p. 227, Mr Billingsley gives an account of the comparative profit of carrots and cabbages. Of the former, however, he obtained only seven tons 15 cwt. *per acre*; the cabbages produced 36 tons: nevertheless, according to him, the profit of the former was L. 5, 8s.; of the latter, only L. 3, 11s. In a paper on the culture of carrots by Mr Kirby of Ipswich, vol. 3. p. 84. he informs us, that he never determined the weight of an acre, but reckons the produce from 200 to 500 bushels; which, at 56 lb. to the bushel, is from five to ten tons and an half. In the same volume, p. 320, the Rev. Mr Onley seems to prefer the culture of carrots to potatoes. 71
Culture of carrots preferred to potatoes.

"However valuable (says he), from ease of culture, and greatness of produce to the poor, especially in all small spots, potatoes.

Carrots.

spots, I doubt, unless near great towns, whether, on a farming plan, potatoes be so eligible as other herbage or roots; especially as carrots, which I cannot but *surmise* (for my trials are too trivial to venture bolder language), deserve every encouragement, even on soils hitherto thought too heavy for them.—I am from experience convinced, that an acre of carrots will double in the quantum, of equally hearty provender, the product of an acre of oats; and from the nature of their vegetation, the nice mode of cultivation, and even of taking them up (all of which, expensive as they are, bear a very inferior proportion to the value of a medium crop), must leave the land, especially if taken off it in an early period, so mellow for the plough, as to form a seed-bed for barley equal to any fallow-tith.

72
Superior to
turnips and
oats.

Mr Onley's desideratum was a substitute for oats to feed horses; of which great numbers are kept in his county (Essex). Potatoes, he observes, are excellent for *small* pork, when baked or boiled, mixed with a little barley-meal; but for large hogs, they are most profitably given raw, if these have at the same time the shack of the barn door in threshing season, &c. In the 5th volume he resumes the subject, and acquaints us, that he applied a single acre in his bean-field to the culture of carrots, which generally produced 400 bushels; and this he considers as a small produce. "I am, however, sensible (says he) that they will amply repay every expence of the finest culture; and should, from their extensive utility on sound, deep, and friable land, be every where attempted. Some of my neighbours, who have been induced to try them on rather a larger scale, with finer culture, and fresher soil, have raised from 600 to 900 bushels *per* acre, and applied them more profitably, as well as more generally, than any other winter-herbage, to deer, sheep, bullocks, cows, and horses. At the lowest calculation, from our little trials, they are computed to exceed turnips in value one-third, as to quantity of food; but are far superior in what arises from convenience for the stable; where to us they seem to be a substitute for corn to all horses, at least such as are not used in any quick work; and partially so with corn for those that are."

In making a comparison betwixt the profit on oats and carrots, Mr Onley finds the latter exceed by no less than L. 2 : 15 : 8 *per* acre. His method of cultivation is to sow them in March or April; to hoe them three times, harrowing after each hoeing. Sometimes he leaves them in the ground till after Christmas, taking them up as wanted; but of late he takes them up in October, in dry days, putting them directly into small upright cocks of 10 bushels each, covered entirely with the tops cut off.—Thus they appear to dry better than in any other way, and bear the weather with very little loss. If, after being thus dried, they are carried into any barn or shed, it will be better, if they are in large quantities, not to pack them close, on account of the danger of heating, but rather to throw them promiscuously into heaps, with a little straw over them. When perfectly dry, they do not in general require any washing, except for horses regularly kept in the stable.

SECT. VII. Turnips.

THESE have long been in such general use as food for cattle, that the profit on raising them might be realised.
N^o 159.

sonably thought to be altogether certain; nevertheless, Mr Young, in the paper already quoted, informs us, that "turnips dunged for are universally a losing crop; for if they are stated from 30s. to 40s. an acre, their value does not amount to the dung alone which is spread for potatoes; yet the latter pays that dung, all other expences, and leaves a profit sometimes considerable. I admit that turnips fed upon the land will prepare better for corn; but that is by no means the question. Would not the dung raised in the farm-yard by the consumption of the potatoes, supposing it spread on the potato-acre, make that produce more than the turnip one? I have no doubt but it would give a superiority. But turnips are liable to great failures, and cannot be relied on late in the spring; potatoes may; and are applicable to uses to which the other root cannot be applied."—In the second volume of the Bath Papers, p. 101. we have a comparative account of the value of turnips, turnip-rooted cabbage, and lucerne, as food for cattle. The result of this writer's observations is, that "when sheep are allowed as many turnips as they can eat (which should always be the case when they are fattening), they will, on an average, eat near 20 pounds each in 24 hours.—An acre of turnips twice hoed, will, if the land be good, produce about 50 tons; which will, on the above calculation, maintain 100 sheep 52 days. The sheep mentioned weigh 20 pounds *per* quarter.—An acre of turnip-rooted cabbage will maintain 100 sheep for a month, and sometimes five weeks; but an acre of Scots cabbages will maintain 200 sheep a full month." The number fed by lucerne is not determined.

The greatest disadvantage which attends a crop of turnips, is their being so ready to be damaged by the fly, which sometimes destroys them so completely, that they must be sown over again two or three times the same season, and even this without any certainty of success. Innumerable methods of avoiding this evil have been projected, which may all be reduced to the following classes: 1. Steeping the seed in certain liquids. 2. Fumigation of the fields with the smoke of certain herbs. 3. Rolling. 4. Strewing foot, lime, ashes, &c. on the surface of the ground. It is very difficult, however, to determine, with any degree of certainty, whether remedies of this kind are effectual or not; because sometimes the turnips are not injured though no precaution has been made use of: and when this happens to be the case, after the use of any supposed preventative, the preservation of the crop is ascribed to the use of that preventative, whether it be really efficacious or not.—The virtues of sleeps seem to have been fully ascertained by Mr Winter Charlton near Bristol, whose experiments an account is given in the Transactions of the Society for Encouraging Arts, vol. 5. The seeds were of the Dutch kind, sowed on beds in the kitchen-garden in drills about 12 inches distant, an inch and a half deep, on the 11th of May 1786. The beds had been prepared with rotten dung in May 1785, and afterwards sown with cabbages. The quality of the turnips is exhibited in the following table; the best being marked 1; and those of inferior quality, 2, 3, &c. The observations were taken on the 26th of June.

Seed without any preparation,	1
steeped in train-oil, flourished extremely,	1
steeped in linseed-oil, somewhat inferior,	1

Seed

Turnips. Seed mixed with foot and water, - - -
 with drainings of a dunghil, - - -
 with elder and barton draining, - - -
 with foot, - - - - -
 with elder leaf juice, - - - - -
 with elder and barton draining, foot
 being sowed over the covered drills,
 with ditto, and lime sowed over the
 drills, - - - - -
 sowed with foot scattered over, and then
 covered, - - - - -
 with barton-draining, - - - - -
 an elder-bush drawn over when the
 plants appeared, - - - - -
 with stale human urine, very few
 plants appeared,
 with slacked lime scattered over, and then
 covered, very few plants appeared,
 with elder, barton-draining, and
 slacked lime, very few plants ap-
 peared,
 with lime and barton-draining did
 not vegetate.

Another set of experiments was made with the green Norfolk turnip, drilled an inch and an half deep, the rows one foot distant, on beds eight feet three inches long, and two feet wide; half a drachm of seed allowed for each bed, steeped and mixed with various substances like the former. The seeds were drilled upon unmanured ground on the 20th of June 1786, and the observation made on the 17th of July. None of the beds were found free from the ravages of the fly; but the seeds which had been steeped in train-oil and linseed-oil were much more free from this injury than the others. The linseed-oil, as in the former experiment, was found inferior to the train-oil, which was supposed to have been owing to its being kept in a bottle that had formerly held oil of turpentine. The leaves of the steeped seeds were of a much darker green than the others, appeared twice as thick in bulk and luxuriance, and the plants were considerably larger than those of the other kinds. The substances mixed with the rest were soaper's ashes, wood-ashes, pounded gun-powder, brimstone, slacked lime, foot, barton-draining; sometimes mixed together in various proportions, and sometimes with the addition of a portion of sifted mould.

These experiments show, that no dependence can be had on steeps or mixtures of any kind with the turnip-seed; though the train-oil and linseed-oil seem greatly to have forwarded the vegetation of the plant. It does not appear that fumigation† has ever been tried; nor indeed does it seem easy to be tried in such a manner as might ensure success.—In the fourth volume of the Bath Papers, Mr Gullet of Devonshire gives such directions for performing the operation as he thinks would be productive of success.—In a preceding paper he had explained the good effects of fumigating orchards; but the case with these must be very considerably different from a field of turnips. The trees in an orchard are elevated above the ground, and the smoke naturally ascends, and is blown along their tops: but in fumigating a large field of turnips, it must creep along the ground in such a manner as is by no means agreeable to its na-

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ture; and without an excessive degree of labour, as well as a vast quantity of burning materials, there cannot be the least hope of success. Mr Gullet's directions are as follow: "If the turnip-ground be spaded and burnt, or the weeds, &c. burnt without spading, the fumigation thereby may suffice to chase such of the winged tribe from thence as are then there; but in all cases, when the field is ploughed and ready for sowing, let heaps be made at different places and intervals round by the hedges and boundaries of the turnip-ground, and some few scattered through the field; then, as soon as the seed is sown, let the heaps on the windward side and the scattered ones be lighted and kept smothering during the continuance of the wind in that quarter; the less the fire, and the more the smoke, the better. Should the wind happen to shift, those heaps on the quarter it shifts to must then be lighted and kept smothering in like manner; so that, during the growth of the tender turnip leaf, and until it becomes rough and out of all danger, this fumigation and smoke, over and across the field, must be continued from one quarter to the other; which, I venture to assert, will effectually deter and prevent any winged insect-tribe from approaching the turnip-ground; nay more, if there already, it would most completely drive them from thence, as such delicately formed insects (which can only feed on the most tender leaf) would be ill able to continue long in such a smother of fire and smoke. The consequence is obvious and certain, that if the fly be kept from approaching the field, the turnip-crop is safe; and few, I believe, will disagree with me, that *prevention is better than remedy*."

Our author does not say that he has ever tried this method with turnips; but lays great stress upon his success in a similar experiment with cabbages, in order to preserve them from the caterpillar. To make the matter more sure, however, he recommends the trailing of a bush of elder over the turnip field at the time of harrowing or brushing in the seed: but this remedy has by numberless experiments been found insignificant, and by those above related seems even to be pernicious: so that whatever good effects we can expect from this method, must depend on the fumigation alone; and even this is attended with very great uncertainties, as has already been observed.

Rolling promises to be of service when the young turnips are attacked by snails, who frequently destroy them; but it cannot be supposed to have much effect in destroying flies, these being too numerous and too minute to be effectually crushed by the roller; and indeed, though this has been frequently recommended, we have no decisive proofs of its having ever been attended with any good effect.

The strewing of foot, lime, ashes, &c. upon the ground, have been determined ineffectual by the experiments already related, at least when applied before the turnips come up; and there seems to be little hope of their proving more effectual even when applied after the crop has appeared above-ground. We may argue indeed *a priori* about the taste or smell of foot, lime, &c. being disagreeable to insects; but of this we have no proof: and even though this were the case, the leaf soon emerges from under this covering, or the insects will feed on the under part of the leaves, where these substances cannot lie. It is evident, therefore, that very

5 B

little

† See Agriculture, n° 78.

77 Mr Gullet's directions for fumigation.

Turnips.

little can be expected from any of the methods hitherto proposed either by way of cure or prevention. The more probable methods are,

79
Early sowing recommended.

1. To sow the turnips at such a season of the year that they may be well grown before the fly makes its appearance. In the Bath Papers, vol. iv. p. 132. Mr Wimpey observes, that, in order to procure food for their cattle in the spring before the grass is grown, farmers are obliged to postpone the sowing of turnips beyond the natural time of vegetation; but were turnips to be sown in April, as soon as the season would permit, it is very probable that there would be as great a crop of them as of other vegetables usually sown in these months. On account of the delay in sowing, however, for the reason already mentioned, the success of the farmer becomes exceedingly precarious, unless he is so fortunate as to have a few rainy days, or cloudy weather and frequent showers, soon after the seed is sown: and this our author supposes to be the true reason why the turnip is a more uncertain article than any other. But though speculations of this kind have a great show of probability, there is not any experiment hitherto published, even by our author himself, by which the truth of them can be absolutely ascertained. Our author, however, is of opinion, that none of the common methods proposed can answer any good purpose, farther than as by means of them the vegetation of the plant may be invigorated. Mr Wimpey recommends ashes, foot, or a rich compost of lime and dung, used in sufficient quantities; but the method of using them is, either to sow them with the seed, or rather by themselves immediately before, and to harrow them well in, that they may be completely incorporated with the soil. This for the most part would so invigorate and encourage the growth of the plants, as to be an overmatch for the most vigorous attacks of the fly.

80
Sowing a great quantity of seed.

2. Another method proposed for securing turnips from the fly, is by sowing such a quantity of seed as will be more than sufficient for the consumption of the insects. This we find recommended in a letter to the Bath society by a gentleman-farmer in Essex, vol. ii. p. 238. His method is to make the land clean and fine as soon as the season will permit, and to sow four pints *per* acre. It may be objected, that if the fly does not take them, the plants will stand so thick, that they cannot easily be hoed; but this may be obviated by harrowing them first, which will make them fit for the hoe. There can be no expectation of a crop if the fly takes them when only a pint of seed is sown *per* acre; but this gentleman remarks, that he has not in any one instance missed of a crop when he sowed four pints; because, though the fly has sometimes destroyed more than one half, and much damaged the other, still there was a sufficient number left behind. He also agrees with other of the Society's correspondents, that the ground should be well dunged and manured previous to the sowing of turnips, as this makes them grow vigorously, so that they quickly get into the rough leaf, in which state the fly will not touch them.

81
Manuring in autumn preferable to spring manure.

In the same volume, a gentleman of Norfolk remarks, that manuring the ground in autumn for turnips is preferable to the doing so in spring. This discovery he made in consequence of the following accident.—“A neighbouring farmer, not having a sufficient quantity of manure for all his turnip land, was under the necessity

of sowing four acres unmanured. The effect was, that the turnips on the manured part of the land were mostly eaten off by the fly, while four acres unmanured escaped without injury.” In consequence of having observed this, the gentleman made a similar experiment, by manuring five acres well for turnips, and tilling three acres and an half in the usual way without any manure. The manured crops were almost all destroyed by the fly, so that he was obliged to sow most of the land over again. The three acres and an half which had no manure were entirely free from injury, though the plants were much smaller than those of the manured ground which came up. Not content with this trial, however, he repeated the experiment, by manuring six acres of wheat stubble in autumn, ploughing it in immediately, and leaving it to incorporate with the earth during the winter: the turnips which grew upon this were as large as if the ground had been manured in the spring. This experiment was repeated with surprising success in two succeeding years; whence he infers, that the fly is either engendered in the new dung or enticed by it. But when the manure is laid on in autumn it loses its noxious qualities, though it still retains its nutritive ones.—This conclusion, however, does not appear to be well founded; for it is certain from undoubted experience, that turnips which have been well manured in the common way, have sometimes escaped any injury; while others, which have got no manure at all, have been almost totally destroyed. Another material advantage, however, which this correspondent observes is to be derived from manuring in autumn is, that all the seeds contained in the manure, and which are of course carried on the land with it, vegetate almost immediately, and are mostly killed by the cold of the succeeding winter, while the few that remain can scarce escape destruction from the ploughshare.

Mr Wimpey is also of opinion, that it is proper to sow a large quantity of seed; but thinks two pounds will be sufficient for an acre. A few ounces indeed would be sufficient to stock the land; but as the article is so precarious, he thinks it by far the safest way to allow seed in plenty, and reduce the plants afterwards by harrowing. He observes also, that it is of great consequence to have seed both good in quality and of the best species. He prefers the large and green topped, as being the most sweet and juicy; others give the preference to the red or purple-topped, as being hardier: but at any rate, the seed from the largest and finest transplanted turnips, of whatever sort, is greatly to be preferred, even though it should cost double or treble the price. Such as is sold by the seedsmen in London he found generally of a mixed kind, and often in great part not worth cultivating. “Whether plants from new or old seed are most secure from the depredations of the fly (says he), is perhaps a question which cannot be easily determined even by experiments; for concomitant circumstances are frequently so much more operative and powerful, as to render the difference between them, if there be any, imperceptible. It is, however, known to every practical man, that new seed sprouts or vegetates several days before old; and I think more vigorously: and it is equally well known, that the healthy and vigorous plants escape the fly, when the stunted and sickly seldom or never escape them.

It

Turnips.

82

Mr Wimpey's opinion of sowing a great quantity of seed.

83

Of the quality of the seed.

Turnips. It should seem then, that new seed, *ceteris paribus*, is more secure from the fly than old; and for my own use I would always prefer it."

84 Offowing turnips with other grain. 3. The sowing of turnips along with other grain. — This, of all others, seems to be the most eligible and efficacious. In the second volume of Bath Papers, p. 210. an Hertfordshire correspondent gives an account of the success of an experiment of drilling turnips with wheat. A small field of spring-wheat was drilled in rows two feet apart; and in the month of May turnips were sown by hand in the intervals. They came up very well, and were thinned once by the hoe. The crop of wheat turned out better than another field of the same soil sown broadcast in autumn, though it ripened somewhat later. The turnips were no other way injured by cutting it, than having some of the large leaves trodden down by the reapers. After harvest the weeds were cut up round the turnips with a hand-hoe, and they grew very large and vigorous. They were of the purple and white long kind, and the crop proved nearly as good as the same land produced in common. An excellent crop of barley and clover was got from the same field afterwards.

85 With wheat. 86 Mr Anderdon's experiments of sowing them with beans. In the third volume of the same work we find an account of several successful experiments in sowing turnips between rows of beans. The advantages of this method are strongly set forth by R. P. Anderdon, Esq; who made some of the experiments, and are as follow: "1. You may have a crop of beans and turnips on the same field the same year. 2. The bean-crop being well horse-hoed, no ploughing is wanted for turnips, for which the best Norfolk farmers give five ploughings. 3. It is hoed cheaper, more effectually, and consequently more profitably, than in any other way. 4. The ground is kept clean from weeds. 5. It is in order for a Lent crop the succeeding year with one earth. 6. The ground is kept in heart, if not improved, by fallowing your alleys. 7. It brings the plant to perfection in poor ground, where it would not become so otherwise. 8. It doubles the crop in any ground which Mr Anderdon has had experience of. 9. You have the crops more within your own power in this than in any other method, let the seasons turn out as they will. 10. You may have on the same ground a bean and turnip crop annually, if the land be suitable, and you think proper. 11. The clay farmer, by this mode, renders land which is naturally unfit for turnips, so free and open by seasonable horse-hoings, that it will bring this useful plant to great perfection."

87 Objections by the Bath Society. On this paper the society made some remarks, and stated the following objections: 1. The same soil cannot be proper for both crops. Scotch cabbages are more adapted for a bean soil; and they wished him to repeat the experiment with cabbages instead of turnips betwixt his beans. 2. The Norfolk farmers rarely use more than three ploughings for turnips, instead of five, as Mr Anderdon represents, unless the ground be full of couch-grass. 3. They think him too sanguine in his expectations of having double crops on the same field. 4. Nothing renders a clay soil so free and open

as to have it exposed to frosts and snow by being laid up in high ridges in January and February; but, on Mr Anderdon's plan, this cannot be done, unless the turnips are lessened in value by being fed off in autumn.

88 These strictures were sent to Mr Anderdon before the papers were printed, but did not make any alteration in his opinion; and he replied to the following purpose:

1. *The same soil cannot be proper for beans and turnips, &c.*—Granted.—But had Mr Anderdon adhered rigorously to this rule, he would have sowed no turnips at all, not having on his farm any soil altogether proper for that crop; "but (says he) while I can get in single rows, four feet asunder or more, from half a dozen to half a score tons of turnips per acre, after, or rather between, a crop of beans in my heavy lands, I shall feel that product here more beneficial than to drop the mode. I believe the medium of the two, so far as I can judge by the eye or get information, to be superior to the average produce of prepared fallow turnip crops in 10 miles round me."—On this the Society make the following remark: "The question here is, Whether, if instead of turnips, Mr Anderdon had planted his beans two feet distant only, the extra produce of his crop would not have exceeded in value that of his turnips? We think they would, as these intervals would freely admit his horse-hoe between the beans."

Mr Anderdon then proceeds to acquaint the committee, that he had tried the experiment as they wished with Scotch cabbages instead of turnips betwixt the rows of beans; but the crop of the turnips was so much preferable, that he found himself inclined to suppose the cabbage would not get to so great perfection there as to be profitably introduced on a large scale, for want of the great quantity of dung necessary for that crop, and which could not be procured in that part of the country. He further remarks in favour of turnips, that they have an abundance of very small lateral fibrous roots, which run so far in search of food, and feed as ravenously where they can penetrate, as those of almost any other vegetable; and the plant certainly derives more nourishment from those than from its tap-root (A). Those fine fibrous roots, almost imperceptible to the eye, issue chiefly from the apple or body of the turnip, and get into the richest part of the soil near the surface, and will bring the plants to a considerable magnitude in heavy lands adapted to beans, when mellowed by the horse-hoe. Some of his turnips weighed ten pounds each: and if he could have only two such turnips on every square yard, it would be at the rate of 43 tons per acre.

2. *The Committee doubt of the possibility of doubling the crop.* Mr Anderdon gives the following explanation. "I have made many comparative trials on turnips between this mode and broad-cast sowing, and always found on my ground the horse-hoed crops the best. But here, in denoting the benefits of the horse-hoe by its doubling a crop, I wish to be understood, that if, in soils like mine, a crop be drilled, leaving proper intervals

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(A) Here the Society remark, that this is not the case with those kinds of turnips which grow chiefly above ground, and which are generally the best crops, and most capable of resisting the frosts.

Turnips.

tervals for horse-hoeing, and one part be horse-hoed the other not, the horse-hoed part will double the other in product."

Mr Anderdon, in the course of his reply to the committee, gives an account of another experiment he made in consequence of being deficient in winter fodder for his cattle. By this necessity he was induced to sow turnips wherever he could; and on the 18th of July drilled a single row between his drilled wheat. On the 20th and 22d of August he drilled four rows of winter vetches in each interval between the turnips, at the rate of less than one peck and three quarters of seed to an acre. "The turnip crop (says he) is very acceptable, and my vetches succeed beyond my warmest expectation; are thick enough, and give me the pleasing prospect and hope, that I shall not, when my dry meat is gone, want a seasonable supply of early green fodder that will last me till my lucerne comes on."

89
Mr Pavier's opinion.

This subject is further considered in the same volume by Mr Pavier, who viewed Mr Anderdon's turnips, and gave in a report of them to the committee. He supposes a crop of beans drilled in single rows at four feet distance, and the turnips drilled in the intervals, according to Mr Anderdon's method, there will then be four rows of 17 feet in length to make a square perch; whereas Mr Anderdon's rows were only 15 feet 8 inches in length; and this disparity in length will make a difference of weight on a perch from 230 to 249 pounds, and on an acre from 16 tons 8 cwt. 2 qrs. 8 lb. Mr Anderdon's produce, to 17 tons 15 cwt. 2 qrs. 24 lb.—Each turnip at this distance (*viz.* four feet from row to row, and nine inches in the rows) must occupy a space of three square feet; consequently the greatest number produced on an acre must be 14,520; but if sown in broadcast, twice hoed, and the distance on an average 15 inches, each turnip will then occupy little more than one foot and an half, and the number produced on an acre may be about 27,920; an excess which may reasonably be supposed to overbalance the value of the beans, let us suppose the crop as great as we can reasonably do. Thus far the argument seems to lie against this method of cultivating beans and turnips together: but on the other hand, Mr Pavier considers it probable that the expence of drilling and horse-hoeing the beans, together with drilling the turnips in the manner Mr Anderdon did, must be considerably less than that of fallowing and preparing the ground, and sowing the turnips in broadcast; to which we must likewise add the facility of hoeing the drills in comparison of the broadcast. But besides these, the great advantage arising from this method, and which, if certain, gives it a decided superiority, is, "the great chance, if not an almost certainty, of preserving the turnips from the depredations of the fly." Mr Pavier was inclined to think that this must be the case, as Mr Anderdon had such crops repeatedly without any damage of that kind: but the committee differ from him, and think that this must have proceeded from some other cause; though they do not assign any reason for this opinion. "The principal point (says Mr Pavier), in determining this question, seems to me to be this: if the crop of beans drilled as above, after deducting the seed, and some additional expence in taking the crop off the ground without injuring the turnips, can be, one year

with another, supposed to be as valuable as the quantity of turnips that might be reasonably expected in the broadcast method more than in the other, I should not hesitate to declare in favour of drilling between the beans."

Thus far the argument seems to be carried on *a priori*. Mr Wimpey, in the letter already quoted, inclines to the practice of sowing turnips between beans planted in rows. "It exactly corresponds (says he) with all my observations on the successful vegetation of that root. A considerable degree of moisture is necessary to the rapid vegetation of that very juicy root, and nothing retains moisture equal to shade; and shade can be obtained and secured by no means so effectually on a large scale as in the intervals of tall growing plants, as beans or wheat planted in drills." The success of Mr Bult of Kingston near Taunton, leaves little room to doubt of the propriety of the method, and its success in preventing the fly. The beans were planted in drills not quite two feet asunder, on two plowings, horse-hoed three times, and the turnips sown in the intervals at the last hoeing. The field measured six acres and a quarter, and was a very good clayey soil, but had not been manured, nor had any dressing laid upon it for six years before. It produced this year three quarters of beans per acre, and 37 tons 5 cwt. of turnips. This field was also viewed by Mr Pavier, who makes the following observations upon it. 1. The turnips were sown promiscuously among the beans at the last hoeing, which was given about midsummer; from which time nothing was done but drawing off the beans and carrying them off the land. 2. The crop of beans was believed to be considerably above 20 bushels per acre, which is much more than were produced by any other method that season in the neighbouring part of the country: and as Mr Pavier had this account before he saw the turnip crop, he did not expect any thing considerable from the latter; but as it turned out, the produce must be accounted highly profitable, when we consider that there was no crop lost, no preparation, dressing, nor any expence whatever, excepting the price of the seed and sowing it. 4. This he considers as one of the strongest recommendations of the drill husbandry he ever knew or heard of; but he is of opinion that it never can answer except where the ground is perfectly clean and free from weeds, by the crops having been horse-hoed for a few years before. 5. He thinks the beans ought to have been planted at wider intervals, by which the sun and air would be freely admitted, and the plants would also be less damaged by the operation of the hoe.

Mr Pavier likewise informs the Society of two other experiments on a similar plan; but with this difference, that the turnips were sown among the beans at the second horse-hoeing. The turnip crops were very good, and the beans more than double the value of those raised in the usual mode of husbandry. "I think it is very evident (says he), that the beans preserve the turnips from the fly; and as no expence or trouble attends the practice, I apprehend it will soon become more general." The Society own, that the uncommon success of Mr Bult's experiment seems to militate at least against what they said on Mr Anderdon's letter; but they insist that the cases are by no means similar. "Though the land (say they), in both instances, is called a heavy clay,

Turnips.

90
Other experiments on sowing turnips among beans.

Turnips. *clay*, they are very different. Mr Anderdon's is poor, wet, and cold; the other a good rich clay; and we apprehend naturally mixed with a kind of marle, which is called clay by persons not thoroughly acquainted with the nice distinction of soils apparently alike, but very different in their nature. Our principle therefore, that cold wet clay lands are unsuitable for turnips, remains unaffected by this experiment; and general practice confirms the truth of the theory."

In another letter, Mr Pavier gives a more particular account of the two other crops of beans and turnips raised upon Mr Bult's plan. The beans were drilled in rows about 22 inches distance, twice horse-hoed, and the produce from about 25 to 30 bushels the computed acre, or from 30 to 36 bushels the statute acre. The preceding summer had been very unfavourable to beans, and the produce per acre in the common husbandry did not, on an average, equal a third part of this quantity. One of these crops was superior to that of Mr Bult: they were sown upon a field of nine computed acres on the 10th of June, after the second horse-hoeing; but whether the second hoeing was performed too soon, the ground not clean, or whatever might be the cause, the beans were weeded twice by hand afterwards; and he is of opinion, that the turnips were somewhat benefited by it. Mr Pavier was assured by a very intelligent farmer, that this was the best crop of turnips he had ever seen. The turnip-feed in the other crop was put in between the rows of beans by a hand-drill; but the work was badly performed, the plants coming up in some places vastly too thick, and in others as much too thin; but wherever they happened to be of a proper thickness, the farmer told him it was one of the most profitable crops he ever had. The soil was wet, heavy, and not very favourable for turnips. Hence Mr Pavier deduces the following conclusions. 1. That with respect to beans in particular, the drilling and horse-hoeing is vastly superior to the common mode of husbandry. 2. That the beans are undoubtedly a good preservative of the turnips from the depredations of the fly. 3. That as by this method no crop is lost, and consequently no rent, but a mere trifle of expence (if any) chargeable to the turnip-crop, it must be one of the most profitable as well as the most certain method of propagating that useful root ever yet practised.—He still insists, however, that if he had an opportunity of trying this method, he would drill the beans in rows at a greater distance, that the turnips might be hand-hoed easily; and that he should prefer the London tick-bean to any other, by reason of their shortness and being such bearers; that he should also take off their tops as soon as the under blossoms began to decay; which, he supposes, would be of great service.

We shall close this dissertation on the uses and culture of turnips with an account of an instrument used in Norfolk for transplanting them, and thus filling up the gaps which frequently happen in fields from the failure of the plants in particular spots. It is represented on the margin; and the construction and mode of using is obvious from the figure.—When the turnips are to be transplanted, the workman holds the long handle with the left hand, and the short one with the right hand drawn up. Put the instrument then

over the plant that is to be taken up, and with your foot force it into the ground; then give it a twist round, and by drawing it gently up, the earth will adhere to the roots of the plant in a solid body; then with another instrument of the same size take the earth out where the plant is to be put, and bringing the instrument with the plant in it, put it into the hole which has been made by the other; then keep your right hand steady, and draw up your left, and the earth and plant will be left in the hole with the roots undisturbed. In this operation two men must be employed, each of them having an instrument of the form represented on the margin. One man takes up a plant while the other fills his instrument with earth only, thereby making room for the deposition of the plant; so that the hole which is made by taking up the plant is filled with the earth taken out where the plant is to be put; which being deposited, he takes up a plant, and returns to the place he first set out from, the former man at the same time returning with the earth only; so that each man is alternately the planter, and each being employed both ways, the work goes on briskly.—This instrument was the invention of Mr Cubitt Gray of Southrepps, Norfolk.

Turnips being the grand basis of the Norfolk husbandry, Mr Marshall gives a very particular account of their culture in that county.—The species cultivated are, 1. The common *white stock*, called in many places the Norfolk turnip. 2. The *purple stock* is similar to the former, but its rind is of a dark red or purple colour; its size in general smaller, and its texture closer and firmer than that of the common white-stock; it also stands the winter better, and is more succulent in the spring, but it is not so well relished by cattle as the former; whence it is less generally cultivated. 3. The *pudding stock*, the *tankard-turnip* of the Midland counties, is in shape so perfectly different from the common sort, that it might be ranked as a distinct species. It rises in a cylindrical form, eight, ten, or twelve inches high, standing in a manner wholly above ground; generally taking a rough irregular outline, and a somewhat reclining posture. It very much resembles the common turnip, and is by much its most formidable rival. In many respects it seems to be superior, particularly in being readily drawn, and eaten off by sheep with much less waste than the common turnip.—The disadvantage is, that they are liable to the attacks of frost, by reason of their standing so high above the surface of the ground; so that on the whole, Mr Marshall concludes, that the common white turnip is to be preferred to every other.

In Norfolk, turnips are sown upon every species of arable land. Marl is found to be highly beneficial; and by means of this manure, a soil naturally unfit for turnips may be rendered proper for it. They succeed barley rather than any other crop; some few are sown on wheat or pea stubble after harvest; but this is not a general practice. The manures in greatest reputation for turnips are dung, with a greater or smaller admixture of mould; *malt-coombs* are also in good repute, and oil-cake is used by a few individuals; "but it may be said, that nine acres of ten of the turnips grown in east Norfolk are manured with muck."—The quantity of dung set on for a crop of turnips generally depends on the quantity on hand, and



92
Norfolk
cultivation
of turnips

91
Instrument
for trans-
planting
turnips.

Bath Pa-
pers, vol. iv.
p. 126.

93
Advantage
of using
marl.

94
Manures
of different
kinds.

Turnips. and the quantity of turnip-ground to be manured. From 10 to 15 cart-loads of muck are considered as a good dressing; and about a ton of oil-cake to three acres; 50 or 60 bushels of malt-coombs, and 40 or 50 bushels of foot, to an acre.

[94]
Cultivation
of turnips
for early
consump-
tion.

95
Method of
sowing,
and culture.

When the turnips are intended for early consumption, the sooner they can be got into the ground the better; but when they are intended to stand the winter, the beginning of July is thought soon enough. The most general rule is to begin sowing about a week before mid-summer, and continue till about a fortnight after, viz. from the 17th or 18th of June to the 7th or 8th of July.—Broad-cast sowing is universal, in the quantity of two pints to an acre. The seed is covered by two lines of a pair of light harrows drawn backward, in order to prevent the lines, which usually point something forward, from tearing up the clods, and burying the seed too deep. The horses are universally *walked* one way, and *trotted* back again in the same place. This is an excellent custom; the quick zig-zag motion of the harrows at once assisting to level the surface, and to distribute the seeds more evenly.—They are universally hoed; and unless they be sown very late, are generally hoed twice. The distance of time between the sowing and the first hoeing depends upon the soil and season; the size of the plants being the only guide. When turnips are suffered to grow too large before they are hoed, the plants are difficult to be set out singly, and are liable to be drawn up by weeds, thereby acquiring a slender upright tendency; whereas their natural growth, in their infant state, is procumbent, spreading their first leaves on the ground, and taking the form of a rose.—If the hoe be put in too soon, the plants which are set out are liable to be buried, and their tender roots disturbed in the act of setting out the neighbouring plants. The time for hoeing, as directed by the most judicious husbandmen, is when the plants, as they lie spread upon the ground, are about the size of the palm of the hand: if, however, seed-weeds be numerous and luxuriant, they ought to be checked before the turnips arrive at that size, lest by being drawn up tall and slender they should acquire a weak and sickly habit. The proper distance depends upon the nature of the soil and the time of sowing; such as are sown early, in a rich productive soil, require to be set out wider than those sown late on a soil of a contrary nature. If the soil be at par, the distance ought to be regulated by the time of sowing: if this be at par, the nature or state of the soil should be the regulator—Mr Marshall complains of the conduct of the Norfolk farmers in general in this respect, who “hack out their turnips 14, 15, or perhaps 18 inches asunder, without any regard to the state of the soil, or time of sowing. This practice was established while the Norfolk soil was full of marl, and new to turnips; and when, it is probable, 11 or 12 inches in diameter was no uncommon size, with tops proportionally large and spreading; and 14 or 15 inches might then be a proper distance. But now, when the efficacy of marl is lessened, and the soil no longer the favourite of turnips, which seldom reach more than seven or eight inches in diameter, it is ruinous and absurd to continue the practice.”

Turnips are cultivated either for seed, for sale, or for consumption. When cultivated for seed, it is sup-

posed in most parts of the kingdom that it ought always to be taken from transplanted roots; but in Norfolk they are frequently raised from such as are untransplanted. “It is a fact (says Mr Marshall) well understood by every husbandman here, that if the seed be gathered repeatedly from untransplanted roots, the plants from this seed will become coarse-necked and foul-rooted; and the flesh of the root itself will become rigid and impalatable. On the contrary, if it be gathered year after year from transplanted roots, the necks will become too fine, and the fibres too few; the entire plant acquiring a weak delicate habit, and the produce, though sweet, will be small. For the neck, or onset of the leaves, being reduced to the size of the finger (for instance), the number and size of the leaves will be reduced in proportion; and in a similar proportion will the number and size of the fibrils be reduced. From a parity of reasoning, it may perhaps be inferred, that when the neck acquires a thickness equal to that of the wrist, the size of the root will be in proportion.

“With respect to the fibres or rootlings, this is a just inference; but with respect to the bulb, it is in a great measure erroneous. For a few generations the size of the bulb will keep pace with the increase of leaves and fibres; but after having once reached the limits which nature has set to its magnitude, it begins to revert to its original state of wildness, from which to its present state it has undoubtedly been raised by transplantation. The farmer has therefore two extremes to avoid. The one is discoverable by the thickness and coarseness of the neck, the scaly roughness of the bulb, the thickness of the rind in general, the foulness of its bottom, and the forkedness of its main or tap-root: the other, by the slenderness of the neck, the fineness of the leaf, and the delicacy of the root. The former are unpalatable to cattle, and are therefore creative of waste: the latter are unproductive, are difficult to be drawn, and do not throw out such ample tops in the spring, as do those which are, by constitution or habit, in a middle state between these two extremes. There is not, however, any general rule respecting how many years turnips ought to be transplanted successively, and how often they ought to be suffered to run up from the seed-bed: the soil and situation have, and other circumstances may have, influence on the habit and constitution of vegetables as of animals; and the farmer must attend alone to the state of the turnips themselves. Whenever he judges, that, by repeated transplantation, they have passed the acme of perfection, then it is his duty and interest to let them run up to seed without transplantation. In Norfolk it has been found, by long experience, that transplanting two, three, or four years, and letting the plants run up the third, fourth, or fifth, will keep the stock in the desired state. The time of transplanting is from Old Christmas to Old Candlemas. In the choice of plants, the farmer is not guided by size, but picks the cleanest plants without regard to size; or, more accurately speaking, he makes choice of such as are near, but not at or above, the state of perfection. In almost every turnip-field there are plants in various states: much judgment, therefore, is requisite in the choice of plants. A piece of good ground near a habitation is generally chosen for this purpose; but the method of planting is various: the

Turnips.
96
Cultivation
of turnips
for seed.

97
Method of
planting.

Turnips. plants are generally set in rows, at uncertain distances from one another." These distances our author has observed to be 16 or 18 inches, and the distance of the plants in them nine or ten inches; but the practice of a man who, he tells us, is indisputably near the head of his profession, is to plant them in rows two feet asunder, the plants in the rows being contiguous. The only culture acquired, is to keep the intervals clean-hoed; but when the seed begins to ripen, much care is requisite to keep it from birds. If the plot be large, it is necessary to employ a boy to scare them; but if it be small, and near the house, Mr Marshall has known the following expedient used with success. "On a slender post, rising in the midst of the patch of seed, was fixed a bell; from which a line passed into the kitchen; in the most frequented part of this hung the pull. Whoever passed the pull, rung the bell; so that, in a farm-house-kitchen, where a mistress and two or three maids were some of them almost always on the foot, an incessant peal was kept up; and the birds, having no respite from alarms, forsook their prey."

98
Method of
scaring
away birds.

99
Of drawing
the turnips.

100
Snow
sledge de-
scribed.

101
Method of
preserving
turnips.

The time of drawing commences about Michaelmas, and continues until the plants be in blow. The process of drawing, he says, "in severe weather, is an employment which nothing but custom could reconcile to those whose lot it is to go through it, namely, stout lads and youths; whose hands are frequently swelled until the joints are discernible only by the dimples they form;" nevertheless he never heard of any instance of bad effects from this circumstance. When the tops will bear it, their method of pulling is very expeditious: they pull with both hands at once; and having filled each hand, they bring the two together with a smart blow to disengage the soil from the roots, and with the same motion throw them into the cart. If the tops be cut off by the frost, or if this be in the ground, the turnips are raised with two tined forks named *crooms*. If the roots are buried under deep snow, it is removed by means of an implement called the *snow-sledge*. This consists of three deal-boards from one to two inches thick, 10 or 12 inches deep, and from seven to nine feet long, set upon their edges in the form of an equilateral triangle, and strongly united with nails or straps of iron at the angles; at one of which is fastened, by means of a double strap, a hook or an eye, to fasten the horses to. This being drawn over a piece of turnips covered with snow, forces up the latter into a ridge on each side, while between the ridges a stripe of turnips is left bare, without having received any material injury from the operation. Though it is customary, in drawing, to clear the ground entirely, our author met with one instance in which the small ones were left by a very good husbandman on the ground, both to increase in size, and to throw out tops in the spring; it being observable, that a small turnip sends up a top nearly equal to one whose bulb is larger. There is one inconvenience, however, arising from this practice, the plough is prevented from entering upon the soil until late in the spring; which, upon some soils, is an unsurmountable objection; tho' it may be very proper upon land which will bring good barley with one ploughing after turnips.

Mr Marshall relates the following simple method, by which a Norfolk farmer preserved turnips through a considerable part of the winter season. Having cut

off their tops with a spade, he gave them to his cows, and carried the bulbs to a new-made ditch, into which he threw them, and then covered them up with straw, laying over it a quantity of bramble kids. Here they lay until wanted in a frost. They were then again carted by means of a fork, and given to the cattle, who eat them as well, or rather better than fresh drawn turnips; and in general they came out as fresh as they went in. Our author is of opinion, that this method might be extended to the preservation of turnips till the spring.

Turnip-
rooted
Cabbage.

SECT. VIII. Turnip-rooted Cabbage.

THIS plant may deservedly be reckoned next in value to the turnip itself. Its advantages, according to Sir Thomas Beevor, are, that it affords food for cattle late in the spring, and resists mildew and frost, which sometimes destroy the common turnip; whence he is of opinion that every farmer who cultivates the common turnip should always have part of his farm laid out in the cultivation of this root. For his mode of culture, &c. See AGRICULTURE, n° 170; and under n° 173 of the same article is given an account of Mr Robins's method of raising them. In another letter from Sir Thomas Beevor, Bath Papers, vol. iii. p. 489. he expresses his hope that the turnip-rooted cabbages he had would last until he should have plenty of grass for all his stock. To make a comparative estimation of the quantity of food yielded by the turnip-rooted cabbage and the common turnip, he selected some of each kind, and having girted them with as much accuracy as possible, he found, that a turnip-rooted cabbage of 18 inches circumference weighed $5\frac{1}{4}$ lb. and a common turnip of the same size only $3\frac{1}{4}$ lb; on trying others, the general result was found to be in that proportion. Had they been weighed with the tops, the superiority of the turnip-rooted cabbage would have been greater, the tops of them being remarkably bushy. They were weighed in the month of March; but had this been done at Christmas, our author is of opinion that the difference would not have been so great; tho' he reckons this very circumstance of their continuing so long to afford a nourishing food, an instance of their excellency above almost every other vegetable whatever.

102
Advantages
attending
the cultivation
of this
root.

103
Compari-
son of the
quantity of
feed in this
and in the
common
turnip.

In the fourth volume of the same work, Sir Thomas gives an account of another experiment on five acres of turnip-rooted cabbage, four of which were eaten upon the field, the other was pulled up and carried to the stables and ox-houses. They were sown and cultivated as other turnips; the beasts were put to them on the 12th of April, and continued feeding upon them till the 11th of May. The cattle fed for this space of time were, 12 Scotch bullocks weighing 40 stone each; eight homebreds, two years old; fifteen cows full-sized; 40 sheep; 18 horses; besides 40 store-hogs and pigs, which lived upon the broken pieces and offal without any other allowance for the whole four weeks. The whole value of the plant; exclusive of the feeding of the pigs, amounted, according to our author's calculation, to L. 18; and he says that the farmers would willingly give this sum in the spring for feeding as many cattle; "because it enables them to save the young shooting grass (which is so frequently injured

104
Other ex-
periments.

Turnip-rooted Cabbage.

injured by the tread of the cattle in the frosty nights) until it gets to such a length and thickness as to be afterwards but little affected by the summer's drought. Besides this, the tops or leaves are in the spring much more abundant, and much better food than those of the common turnip, as already observed; and they continue in full perfection after all the common turnips are rotten or worthless.

104
Disadvantages attending the cultivation of this plant.

The disadvantages attending the cultivation of turnip rooted cabbages are, that they require a great deal of time and pains to take them up out of the ground, if they are to be carried off the field; and if fed where they grow, it requires almost an equal labour to take up the pieces left by the cattle. A great deal of earth is also taken up along with the root; and the substance of the latter is so firm and solid, that they must be cut in two in order to enable the cattle to eat them. To obviate some of these objections, it will be proper to sow the plants on rich and very light land; and as they are longer in coming to the hoe than the common turnip, it will be proper to sow them about the beginning of June.

105
Why every farmer ought to cultivate this plant.

In another experiment upon this plant by the same gentleman, the cabbages held out during the long and severe frost of 1788 without the least injury, though it destroyed three-fourths of all the common turnips in the neighbourhood. On the 21st of April 1789, the average produce of an acre was found to be somewhat more than $24\frac{1}{2}$ tons, though the tops had not sprouted above three inches. Considering the precariousness of turnips and other crops, Sir Thomas is decisively of opinion, that all farmers ought to have as many turnip-rooted cabbages as would afford and ensure them a full provision for their cattle for about three or four weeks during the latter part of the spring. This quantity he reckons sufficient, as the consumption, particularly when drawn and carried off the land, is attended with more trouble and expence than that of common turnips, especially if the soil be wet and heavy. In another letter, dated May 3. 1790, Sir Thomas Beever once more sets forth the advantages of having a crop of these vegetables during the spring-season. "In consequence (says he) of the very cold weather we have had here, the grass is but just springing: as the turnips are wholly eaten up, it occasions much distress among the farmers for want of some green vegetable food for their sheep and cattle; whereas, by the assistance of my turnip-rooted cabbages, I have abundance of the best and most nutritive food that can be found them." He then proceeds to recommend their culture "for the support of almost all live stock for the three last weeks of April, or first week of May, when the grass shoots late."

In the 4th volume of the Transactions of the Society for encouraging Arts, Mr Robins, who received a premium for raising the greatest quantity of this plant, informs us, that the soil on which it grew was a *stone braish*, inclining to sand, not worth more than 10s. per acre; the preparation the same as for turnips. The manure was a compost of earth and dung, which he finds to answer better than dung. The seed was sown about the beginning of April on a clean spot of ground; and he commonly uses an old pasture where the sheep-fold has been in the winter, after taking away the dung, and digging it very shallow; "as the roots

N^o 159.

of the young plants (says he) might soon reach the dung or salts, which must consequently be left, in order to force them out of the fly's way." These insects, our author observes, are extremely fond of the turnip-rooted cabbage; much more so, he believes, than of common turnips. About the middle of June they should be planted out upon one-bout ridges raised by a double plough made for the purpose. Seven thousand plants are sufficient for one acre; but if only six are used, the roots will be the larger.

To determine how many sheep might be kept upon an acre of turnip-rooted cabbage, our author shut up 200 ewes with their lambs upon a piece of poor pasture-land of no great extent; the whole not exceeding ten acres. One ton was found sufficient for keeping them in sufficient health for a day. On giving them a larger piece of ground to run over, though it had been eat all winter and late in the spring; yet with this trifling assistance 13 tons of turnip-cabbage were made to serve 18 days; at the end of which the ewes and lambs were found very much improved, which could not have been expected from four acres of turnips in the month of April, the time that these were fed.

From some trials made on the turnip-rooted cabbage at Cullen House in the north of Scotland, it appears that the plant is adapted to the climate of every part of our island. The first trial was made in the year 1784. The seeds were sown about the middle of March in garden-ground properly prepared. The cabbages were transplanted about the middle of March that year into a dry light soil, well cleaned and dunged with rotten cow-dung, in rows three feet distant from each other, and at the distance of 20 inches in the rows. They were kept very clean, and the earth was hoed up to the roots of the plants; by which means they were probably prevented from attaining the hardness they would have otherwise arrived at; though, after all, it was necessary to cut the roots in two before the sheep could eat them. When thus cut, the animals eat them greedily, and even preferred them to every other food. The roots continued good for at least a month after the common turnips were unfit for use: some of them weighed from eight to ten pounds, and a few of them more. Other trials have since been made; and it now appears that the plant will thrive very well with the ordinary culture of turnips in the open fields, and in the usual manner of sowing broad-cast. From a comparative trial made by the earl of Fife upon this root with some others, the quantities produced upon 100 square yards of ground were as follows:

	Stone.	lb.
Common turnips	92	4
Turnip-rooted cabbage	88	0
Carrots	95	0
Root of scarcity	77	0

The turnip-rooted cabbage was planted in lines 20 inches asunder; the common turnips sown broad-cast, and hand weeded, so that they came up very thick, being not more than three or four inches asunder when full grown. Two cows were fed for six weeks with the turnips, two with the turnip-rooted cabbage, and two with the root of scarcity for an equal time: the two fed with turnips gave most milk, and those with the root of scarcity the least. His lordship ob-

serves,

Turnip-rooted Cabbage.

106
Number of sheep fed by an acre of turnip root ed cabbages.

107
Experiments at Cullen-house.

Swedish
Turnip.

serves, however, that carrots thrive better on his farm than any other crop: that his horses had been fed on them at the rate of two pecks a day, with no corn, and little more than half the usual quantity of hay. "They were kept at work every day from seven to eight hours, and were never in better order."

SECT. IX. *Swedish Turnip.*

108
Of the Ru-
ta Baga.

THE ruta бага, or Swedish turnip, is a plant from which great expectations have been formed. It is said to be hardier than the common turnip, and of greater sweetness and solidity. It also preserves its freshness and succulence till a very late period of its growth, even after it has produced seed; on account of which property it has been recommended to the notice of farmers as an excellent kind of succulent food for domestic animals in the spring of the year, when common turnips and most other winter crops have failed, and before grass got up to furnish an abundant bite for feeding beasts. This peculiarity, so valuable, yet so singular as to have led many at first to doubt the fact, seems to be sufficiently ascertained by experiment. Dr J. Anderson† in particular informs us, that it "begins to send out its flower-stems in the spring, nearly about the same time with the common turnip; but that the root, in consequence of that change of state, suffers very little alteration. I continued to use these turnips at my table every day till towards the middle of May; and had I never gone into the garden myself, I should not even then have suspected, from the taste or appearance of the bulb itself, that it had been shot at all. The stems, however, at the season I gave over using them, were from four to five feet high, and in full flower. I should have continued the experiment longer, had not the quantity I had left for that purpose been exhausted, and a few only left for seed.

† *The Bee*,
vol. iii. p.
291.

"This experiment, however, fully proves, that this kind of turnip may be employed as a succulent food for cattle till the middle of May at least, in an ordinary year; and I have not the smallest doubt but it will continue perfectly good for that purpose till the end of May in any season; at which time grass and other spring-crops can easily be had for bringing beasts forward in flesh. I can therefore, without hesitation, recommend this plant to the farmer as a most valuable spring-feeding for cattle and sheep; and for this purpose, I think no wise farmer should be without a proportion of this kind of turnip to succeed the other sorts after they fail. The profitable method of consuming it, where it is to be kept very late, is, I am convinced, to cut off the tops with a scythe or sickle when from one foot to eighteen inches high, to induce it to send out fresh stems, that will continue soft and succulent to the end; whereas, without this process, the stems would become sticky and useless.

"I cannot, however, recommend this kind of turnip, from what I have yet seen, as a general crop; because I think it probable, that unless in particular circumstances, the common field-turnips grow to a much larger size, and afford upon the whole a more weighty crop. These, there, should still continue to be cultivated for winter use, the other being reserved only for spring consumption.

"Experiments are still wanting to ascertain with certainty the peculiar soil and culture that best agree with
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this plant; but from the few observations I have hitherto had an opportunity of making upon it, it seems to me probable, that it thrives better, and grows to a larger size on damp clayey soil, than on light sandy land. But I would not wish to be understood as here speaking positively; I merely throw it out as a hint for future observation: on spongy soil it prospers.

"Though the uses of this as a garden plant are of much smaller consequence than those above-specified, it may not be improper to remark, that its leaves form a very sweet kind of greens at any time; and merely for the sake of the experiment, I caused some of these to be picked off the stems of the plants coming to seed, on the 4th of June, the king's birth-day, which, on being readied, were found perfectly sweet, without the smallest tendency to bitterness, which most, if not all other kinds of greens that have been hitherto cultivated are known to acquire after their stems are considerably advanced; no family, therefore, can ever be at a loss for greens when they have any of this plant in seed.

"A root of this kind of turnip was taken up this day (June 15th); the seed stalks were firm and woody, the pods full formed, and in some of them the seeds were nearly ripe. The root, however, was as soft and succulent as at any former period of its growth; nor was the skin, as I expected, hard or woody. It was made ready and brought to the table: some persons there thought the taste as good, if not better, than at any former period of its growth; but I myself, perhaps through prejudice, thought it had not quite so high a relish as in winter: At any rate, however, there can be no doubt, that if ever it could be necessary, it might, even now, be employed very properly as a feeding for cattle."

SECT. X. *Turnip-Cabbage.*

THIS plant is as yet but little known. The seed is said to have been brought from the Cape of Good Hope by Mr Hastings, where it is very common as well as in Holland. It has also had an existence in Britain for many years, though not generally known. It has a much greater affinity to the cabbage than to the turnip; and is very hardy, bearing the winter as well, if not better, than common brocoli, and may therefore be considered as a valuable acquisition to the kitchen-garden as well as for cattle. The best time for sowing it for the garden is the end of May or beginning of June, though none of the plants have ever been observed to run to seed though sown ever so early. Even though sown in August at the cauliflower season, the greater part stood throughout the following summer, and did not seed till the second spring. The plants require nearly the same management with brocoli as to distance, transplanting, &c. and are usually most esteemed when young, and about the size of a moderate garden turnip; those sown in June will continue all winter. The bulb must be stripped clean of its thick fibrous rind; after which it may be used as a common turnip. The crown or sprout is very good, but especially in the spring, when they begin to run to seed. Mr Broughton, from whose account in the Bath Papers, vol. v. this article is taken, thinks that the turnip-cabbage is more nutritious than the common turnip. The largest bulb he measured was 23 inches

Turnip-
Cabbage.

109
Method of
cultivation.

Cabbage.

circumference; but the thickness of the rind is so great, that some farmers imagined that the bulb would be too hard for sheep. The objection, however, was obviated by Mr Broughton, who gave some of the oldest and toughest bulbs to his sheep, and found that they not only penetrated through the rind, but even devoured the greatest part of it.

SECT. XI. *Cabbage.*

CABBAGE has been recommended by long experience as an excellent food for cattle; it uses as part of human food are also well known. In a paper already quoted from those of the Bath Society, Scotch cabbages are compared, as to their utility in feeding cattle, with turnips, turnip-rooted cabbage, and carrots. In this trial the cabbages stand next in value to the carrots; and they are recommended as not liable to be affected by frost, if they be of the true flat-topped firm kind. Fifty-four tons have been raised upon an acre of ground not worth more than 12 shillings. There is likewise an advantage attending the feeding of cattle with cabbages, viz. that their dung is more in proportion than when fed with turnips or with hay; the former going off more by urine, and the latter having too little moisture. They also impoverish the ground much less than grain. Mr Billingsley accounts 46 tons per acre a greater crop than he ever read of; but Mr Vagg, in the 4th volume of Bath Papers, gives an account of a crop for which he received a premium from the Society, which was much superior to that of Mr Billingsley. Its extent was 12 acres; the produce of the worst was 42, and of the best 68 tons. They were manured with a compost of lime, weeds, and earth, that lay under the hedges round the field, and a layer of dung, all mixed and turned together. About 25 cart-loads of this were spread upon an acre with the usual ploughing given to a common summer-fallow; but this, he says, "admitting such crop to exhaust the manure in some degree by its growth, an ample restoration will be made by its refuse ploughed in, and by the stirring and cleaning of the ground. The whole expence of an acre, exclusive of the rent, according to Mr Vagg's calculation, amounts to L. 1 : 14 : 1, only four ounces of seed being requisite for an acre. The 12 acres, producing as above mentioned, would feed 45 oxen, and upwards of 60 sheep, for three months; improving them as much as the grass in the best months of the year, May, June, and July. He recommends sowing the seed about the middle of August, and transplanting the young cabbages where they may be sheltered from the frost; and to the neglect of this he ascribes the partial failure, or at least inferiority of one part of his ground in the crop just mentioned, the young plants not being removed till near midsummer, and then in so dry a time, that they were almost scorched up.

In the Farmer's Magazine, vol. ii. p. 217. we have several pertinent remarks upon the culture of this useful plant, particularly with regard to watering. "It is a rule (says this correspondent) never to water the plants, let the season be as dry as it may; insisting that it is entirely useless. If the land is in fine tilth and well dunged, this may be right, as the expence must be considerable; but it is probable, in very dry seasons, when the new set plants have nothing but a

burning sun on them, that watering would save vast numbers, and might very well answer the expence, if a pond is near, and the work done with a water-cart." He takes notice also of another use of cabbages, which has not met with the attention it merits, viz. the planting of lands where turnips have failed. A late sown crop of these seldom turns to any account; but cabbages planted on the ground without any ploughing would prove very beneficial for sheep late in the spring; in all probability (unless on light, sandy, or limestone soils) of greater value than the turnips, had they succeeded.

Mr Marshall observes, that in the Midland district, a valuable sort of large green cabbage "is propagated, if not raised, by Mr Bakewell, who is not more celebrated for his breed of rams than for his breed of cabbages. Great care is observed here in raising the seed, being careful to suffer no other variety of the brassica tribe to blow near seed-cabbages; by which means they are kept true to their kind. To this end, it is said, that some plant them in a piece of wheat; a good method, provided the seed in that situation can be preserved from birds."

The advantage of having large cabbages is that of being able to plant them wide enough from each other, to admit of their being cleaned with the plough, and yet to afford a full crop. The proper distance depends in some measure on the natural size of the species and the strength of the soil; the thinner they stand, the larger they will grow: but our author is of opinion, that cabbages, as well as turnips, are frequently set out too thin. Four feet by two and an half, according to Mr Marshall, are a full distance for large cabbages on a rich soil.

SECT. XII. *Parsnips.*

THESE, though little used in Britain, are highly esteemed in France and some of our neighbouring islands as food for cattle. In Brittany particularly, they are thought to be little inferior in this respect to wheat; and cows fed with them are said to give as much milk, and of as good quality, as in the summer-months. It is also very much commended for swine which rear young pigs, and for fattening the swine themselves. The author of this paper also recommends a method of determining the nutritive qualities of plants by the quantity of mucilage they contain; which may be known by boiling them in water, and then evaporating the decoction: the parsnip, he supposes, would yield a greater quantity of mucilage than either carrots or potatoes.

"To cultivate this root (says Mr Hazard) so as to make it advantageous to the farmer, it will be right to sow the seed in the autumn immediately after it is ripe; by which means the plants will appear early the following spring, and get strong before the weeds can rise to injure them. Neither the seeds nor young plants are ever materially injured by frosts; on which account, as well as many others, the autumn is preferable to the spring sowing. The best soil for them is a rich deep loam, and next to this sand. They will thrive well in a black gritty soil, but not in stone-brash, gravel, or clay; and they are always largest in the deepest earth. If the soil be proper, they do not require much manure. Mr Hazard obtained a very

110
Quantity
raised on
an acre,
&c.

111
Of water-
ing cab-
bages.

112
Cabbage
cultivated
in the Mid-
land dis-
trict.

113
Distance at
which they
ought to be
placed.

114
An excel-
lent food
for cattle.

115
Bath Pa-
pers, vol. iv.
p. 244.
Mr Ha-
zard's me-
thod of cul-
tivation.

good

¹¹⁵ Parsnips. good crop for three years upon the same piece of ground without using any; but when he laid on about 40 cart loads of sand per acre upon a stiff loam, and ploughed it in, he found it answer very well; whence he concludes, that a mixture of soils may be proper for this root. The seed may be sown in drills at about 18 inches distance from one another, that the plants may be the more conveniently hand or horse hoed; and they will be more luxuriant if they undergo a second hoeing, and are carefully earthed, so as not to cover the leaves. Such as have not ground to spare, or cannot get it in proper condition in autumn, may at that time sow a plot in their garden, and transplant from thence in the latter end of April, or early in the month of May following. The plants must be carefully drawn, and the ground well pulverised by harrowing and rolling; after which a furrow should be opened with the plough about six or eight inches deep, in which the plants should be regularly laid at the distance of about ten inches from each other, taking care not to let the root be bent, but for the plant to stand perpendicular after the earth is closed about it, which ought to be done immediately by means of persons who should for this purpose follow the planter with a hoe. Another furrow must be opened about 18 inches from the former, in the same direction, and planted as before; and so on in like manner until all the plants are deposited, or the field be completely cropped: and when the weeds appear, hoeing will be necessary, and it will afterwards be proper to earth them; but if the leaves of the plants be covered with earth, the roots will be injured. Parsnips ought not to be planted by dibbling, as the ground thus becomes so bound, as seldom to admit the small lateral fibres with which these roots abound to fix in the earth, by which they are prevented from expanding themselves, and never attain a proper size. When circumstances are properly attended to, there is little doubt that a crop of parsnips would answer much better than a crop of carrots.

¹¹⁶ Parsnips. They are equal, if not superior, in fattening pigs, as they make their flesh whiter, and the animals themselves are more fond of these roots than of carrots. Horses eat them greedily when clean washed and sliced among bran, and thrive very well upon them; and black cattle are said likewise to approve of them.

THE foregoing are the principal vegetables which have as yet been recommended, or which experience has determined to be proper, to be raised as food for men or for cattle.

One or two other plants may be just noticed, which have lately fallen under the observation of those who apply themselves to the study of husbandry, viz. the ¹¹⁶ *root of scarcity*, and what are called *mowing cabbages*. Concerning the latter, no experiments have yet been made to determine sufficiently their properties and value. They are mentioned in the Bath Papers † by † Vol. v. Sir John Beevor, who had a small parcel of seed sent P. 424. him; which he sowed in spring, and several plants were produced. Some of these were cut down three times, and grew into heads again so speedily, "that (says he) had I had leisure to have attended to them, I doubt not but that the cuttings might have been repeated; but as there is never on my farm any want of fresh vegetable food for cattle in the summer, unless I can find them continue to vegetate in like manner during the winter (which mine have not done) or very early in the spring, I think they will not prove to me, or any one under the like circumstances, an object of much value.—As to the *root of scarcity*, we have no- ¹¹⁷ thing to add to what has been said on it under AGRICULTURE, n° 52. Notwithstanding a great number of ¹¹⁸ experiments, it still appears uncertain whether it be really useful or not.

With regard to *Grasses*, the most useful species have been described under the article GRASS, and the cultivation of them so fully explained under AGRICULTURE, as to require no further enlargement here.

PART II. CULTIVATION OF VEGETABLES more properly ARTICLES of COMMERCE.

THESE in general are such as cannot be used for food; and are principally flax, hemp, rape, hops, and timber of various kinds; and of each of these we shall treat particularly in the following sections.

SECT. I. Of Flax and Hemp.

THIS plant is cultivated not only with a view to the common purposes of making linen, but for the sake of its seed also; and thus forms a most extensive article of commerce, all the oil used by painters, at least for common purposes, being extracted from this seed. The cake which remains after the extraction of the oil is in some places used as a manure, and in others sold for fattening of cattle. In the Vale of Gloucester, Mr Marshall informs us that it is, next to hay, the main article of stall-fattening; though the price is now become so great, that it probably now leaves little or no profit to the consumer, having within a few years risen from three guineas to six and six and an half, and the lowest price being five guineas per ton; and even this is lower than it was lately. Hence some individuals have been induced to try the effect of linseed itself boiled to a jelly, and mixed with flour, bran, or

chaff, with good success, as Mr Marshall has been informed; and even the oil itself has been tried for the same purpose in Herefordshire. Though this plant is in universal culture over the whole kingdom, yet it appears by the vast quantity imported, that by far too little ground is employed in that way. As Mr Marshall takes notice of its culture only in the county of Yorkshire, it probably does not make any great part of the husbandry of the other countries of which he treats; and even in Yorkshire he tells us, that its cultivation is confined to a few districts. The kind cultivated there is that called "blea line," or the blue or lead-coloured flax, and this requires a rich dry soil for its cultivation. A deep, fat, sandy loam is perhaps the only soil on which it can be cultivated with advantage. It sown upon old corn-land, it ought to be well cleaned from weeds, and rendered perfectly friable by a summer-fallow. Manure is seldom or ever set on for a line crop; and the soil process consists generally of a single plowing. The seed-time is the month of May, but much depends on the state of the soil at the time of sowing. "It should neither be wet nor dry; and the surface ought to be made as fine as that of a garden bed. Not a clod of the size of an egg should re-

¹¹⁹ Linseed-cake, linseed itself, and linseed-oil, used for fattening cattle.

¹²⁰ Culture of flax in Yorkshire.

Flax and
Hemp.

main unbroken." Two bushels of seed are usually sown upon an acre: the surface, after being harrowed, is sometimes raked with garden or hay-rakes; and the operation would be still more complete if the clods and other obstructions, which cannot be easily removed, were drawn into the interfurrows. A light hand-roller used between the final raking and harrowing would much assist this operation. The chief requisite during the time of vegetation is weeding, which ought to be performed with the utmost care; and for this reason it is particularly requisite that the ground should be previously cleansed as well as possible, otherwise the expence of weeding becomes too great to be borne, or the crop must be considerably injured. It is an irreparable injury, if, through a dry season, the plants come up in two crops; or if by accident or mismanagement they be too thin. The goodness of the crop depends on its running up with a single stalk without branches: for wherever it ramifies, there the length of the line terminates; and this ramification is the consequence of its having too much room at the root, or getting above the plants which surround it. The branches are never of any use, being unavoidably worked off in dressing; and the stem itself, unless it bear a due proportion to the length of the crop, is likewise worked off among the refuse. This ramification of the flax will readily be occasioned by clods on the ground when sown. A second crop is very seldom attended with any profit; for being overgrown with the spreading plants of the first crop, it remains weak and short, and at pulling time is left to rot upon the land.

Flax is injured not only by drought but by frost, and is sometimes attacked, even when got five or six inches high, by a small white slug, which strips off the leaves to the top, and the stalks bending with their weight are thus sometimes drawn into the ground. Hence, if the crop does not promise fair at weeding time, our author advises not to bestow further labour and expence upon it. A crop of turnips or rape will generally pay much better than such a crop of flax. The time of flax-harvest in Yorkshire is generally in the latter end of July or beginning of August.

121
His re-
marks on
flax crops.

On the whole, our author remarks, that "the goodness of the crop depends in some measure upon its length; and this upon its evenness and closeness upon the ground. Three feet high is a good length, and the thickness of a crow's quill a good thickness. A fine stalk affords more line and fewer shivers than a thick one. A tall thick set crop is therefore desirable. But unless the land be good, a thick crop cannot attain a sufficient length of stem. Hence the folly of sowing flax on land which is unfit for it. Nevertheless, with a suitable soil, a sufficiency of seed evenly distributed, and a favourable season, flax may turn out a very profitable crop. The flax-crop, however, has its disadvantages: it interferes with harvest, and is generally believed to be a great exhauster of the soil, especially when its seed is suffered to ripen. Its cultivation ought therefore to be confined to rich grass-land districts, where harvest is a secondary object, and where its exhaustion may be rather favourable than hurtful to succeeding arable crops, by checking the too great rankness of rich fresh broken ground.

122
Mr Bart-
ley's expe-
rience.

In the 5th volume of Bath-Papers, Mr Bartley, near Bristol, gives an account of the expences and produce

of five acres of flax cultivated on a rich loamy sand. The total expence was 42 l. 13 s. 4 d. the produce was ten packs of flax at 5 l. 5 s. value 52 l. 10 s. 35 bushels of linseed at 5 s. value 8 l. 15 s. the net profit therefore was 18 l. 11 s. 8 d. or 4 l. 13 s. 4 d. per acre. This gentleman is of opinion that flax-growers ought to make it their staple article, and consider the other parts of their farm as in subserviency to it.

In the 2d volume of Bath-Papers, a Dorsetshire gentleman, who writes on the culture of hemp and flax, gives an account somewhat different from that of Mr Marshall. Instead of *exhausting* crops, he maintains that they are both *ameliorating* crops, if cut without seeding; and as the best crops of both are raised from foreign seed, he is of opinion that there is little occasion for raising it in this country. A crop of hemp, he informs us, prepares the land for flax, and is therefore clear gain to the farmer. "That these plants impoverish the soil," he repeats, "is a mere vulgar notion, devoid of all truth.—The best historical relations, and the verbal accounts of honest ingenious planters, concur in declaring it to be a vain prejudice, unsupported by any authority; and that these crops really meliorate and improve the soil." He is likewise of opinion, that the growth of hemp and flax is not necessarily confined to rich soils, but that they may be cultivated with profit also upon poor sandy ground, if a little expence be laid out in manuring it. "Spalding-moor in Lincolnshire is a barren sand; and yet with proper care and culture it produces the best hemp in England, and in large quantities. In the isle of Asholme, in the same county, equal quantities are produced; for the culture and management of it is the principal employ of the inhabitants; and, according to Leland, it was so in the reign of Henry VIII. In Marshland the soil is a clay or strong warp, thrown up by the river Ouze, and of such a quality, that it cracks with the heat of the sun, till a hand may be put into the chinks; yet if it be once covered with the hemp or flax before the heats come on, the ground will not crack that summer. When the land is sandy, they first sow it with barley, and the following spring they manure the stubble with horse or cow dung, and plough it under. Then they sow their hemp or flax, and harrow it in with a light harrow, having short teeth. A good crop destroys all the weeds, and makes it a fine fallow for flax in the spring. As soon as the flax is pulled, they prepare the ground for wheat. Lime, marl, and the mud of ponds, is an excellent compost for hemp-lands."

Our author takes notice of the vast quantity of flax and hemp, not less than 11,000 tons imported in the year 1763 into Britain; and complains that it is not raised in the island, which he thinks might be done, though it would require 60,000 acres for the purpose. He observes, that the greater part of those rich marshy lands lying to the west of Mendip hills are very proper for the cultivation of hemp and flax; and if laid out in this manner could not fail of turning out highly advantageous both to the landholders and the public at large. "The vast quantities of hemp and flax (says he) which have been raised on lands of the same kind in Lincolnshire marshes, and the fens of the Isle of Ely and Huntingdonshire, are a full proof of the truth of my assertion. Many hundreds of acres in the above mentioned places, which, for pasturage or grazing, were

Flax and
Hemp.

123
Remarks
on a Dorset-
shire gen-
tleman.

124
Flax and
hemp may
be cultiva-
ted upon
poor as
well as rich
soils.

125
Vast quan-
tities of flax
and hemp
imported
into Bri-
tain.

not

Cole Seed. not worth more than 20 or 25 shillings per acre, have been readily let at 4l. the first year, 3l. the second, and 2l. the third. The reason of this supposed declining value of land, in proportion to the number of years sown with flax, is, that it is usual with them to seed it for the purpose of making oil, that being the principal cause of the land being thereby impoverished.

SECT. II. *Rape or Cole Seed.*

Bath Pa-
pers, vol. iv.

126
Advantage
of cultiva-
ting rape-
seed.

127
Of cutting
and thrash-
ing the
rape-seed

128
Of sowing
it.

129
Transplant-
ing recom-
mended.

130
Sheep may
be fed in
the spring
with rape.

THIS, as well as linseed, is cultivated for the purpose of making oil, and will grow almost any where. Mr Hazard informs us, that in the north of England the farmers pare and burn their pasture lands, and then sow them with rape after one ploughing; the crop commonly standing for seed, which will bring from 25l. to 30l. per last (80 bushels.) Poor clay, or stone-brash land, will frequently produce from 12 to 16 or 18 bushels per acre, and almost any fresh or virgin earth will yield one plentiful crop; so that many in the northern counties have been raised, by cultivating this seed, from poverty to the greatest affluence. The seed is ripe in July or the beginning of August; and the threshing of it out is conducted with the greatest mirth and jollity.

The rape being fully ripe, is first cut with sickles, and then laid thin upon the ground to dry; and when in proper condition for threshing, the neighbours are invited, who readily contribute their assistance. The threshing is performed on a large cloth in the middle of the field, and the seed put into sacks and carried home. It does not admit of being carried from the field in the pod in order to be threshed at home, and therefore the operation is always performed in the field; and by the number of assistants procured on this occasion, a field of 20 acres is frequently threshed out in one day. The straw is burnt for the sake of its alkali, the ashes being said to equal the best kind of those imported from abroad.

The proper time for sowing rape is the month of June; and the land should, previous to the sowing, be twice well ploughed. About two pounds of seed are sufficient for an acre; and, according to our author, it should be cast upon the ground with only the thumb and two fore fingers; for if it be cast with all the fingers, it will come up in patches. If the plants come up too thick, a pair of light harrows should be drawn along the field length-ways and cross-ways; by which means the plants will be equally thinned; and when the plants which the harrows have pulled up are withered, the ground should be rolled. A few days after the plants may be set out with a hoe, allowing 16 or 18 inches distance betwixt every two plants.

Mr Hazard strongly recommends the transplanting of rape, having experienced the good effects of it himself. A rood of ground, sown in June, will produce as many plants as are sufficient for 10 acres; which may be planted out upon ground that has previously borne a crop of wheat, provided the wheat be harvested by the middle of August. One ploughing will be sufficient for these plants; the best of which should be selected from the seed-plot, and planted in rows two feet asunder and 16 inches apart in the rows. As rape is an excellent food for sheep, they may be allowed to feed upon it in the spring; or the leaves might be gathered, and given to oxen or young cattle; fresh

leaves would sprout again from the same stalks, which in like manner might be fed off by ewes and lambs in time enough to plough the land for a crop of barley and oats. Planting rape in the beginning of July, however, would be most advantageous for the crop itself, as the leaves might then be fed off in the autumn, and new ones would appear in the spring. Our author discommends the practice of sowing rape with turnips, as the crops injure one another. "Those who look for an immediate profit (says he), will undoubtedly cultivate rape for seed; but perhaps it may answer better in the end to feed it with sheep: the fat ones might cull it over first, and afterwards the lean or store-sheep might follow them, and be folded thereon: if this is done in autumn season, the land will be in good heart to carry a crop of wheat; or where the rape is fed off in the spring, a crop of barley might follow. In either case rape is profitable to the cultivator; and when it is planted, and well earthed round the stems, it will endure the severest winter; but the same cannot be advanced in favour of that which is sown broadcast.

SECT. III. *Coriander Seed.*

THIS is used in large quantities by distillers, druggists, and confectioners, and might be a considerable object to such farmers as live in the neighbourhood of great towns; but the price is very variable, viz. from 16s. to 42s. per cwt. In the 4th volume of Bath Papers, Mr Bartley gives an account of an experiment made on this seed, which proved very successful. Ten peaches of good sandy loam were sown with coriander on the 23d of March 1783. Three pounds of seed were sufficient for this spot; and the whole expence amounted only to 5s. 10d. The produce was 87 pounds of seed, which, valued at 3d. yielded a profit of 15s. 11d. or 15l. 18s. 4d. per acre. He afterwards made several other experiments on a larger scale; but none of the crops turned out so well though all of them afforded a good profit.

SECT. IV. *Canary Seed.*

THIS is cultivated in large quantity in the Isle of Thanet, where it is said they have frequently 20 bushels to an acre. Mr Bartley, in the month of March 1783, sowed half an acre of ground, the soil a mixture of loam and clay, but had only eight bushels and an half, or 17 bushels per acre. With this produce, however, he had a profit of 4l. 2s. 3d. per acre.

SECT. V. *Woad.*

THE use of this in dyeing is well known, and the consumption is so great, that the raising of the plant might undoubtedly be an object to an husbandman, provided he could get it properly manufactured for the dyers, and could overcome their prejudices. At present, the growing of this plant is in a manner monopolized by some people in particular places, particularly at Keynsham near Bristol in England. Mr Bartley informs us, that in a conversation he had with these growers, the latter asserted, that the growth of woad was peculiar to their soil and situation. The soil about this place is a blackish heavy mould, with a considerable

Coriander-
Seed, &c.

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Mr Bartley's experiment.

132
Woad easily cultivated.

Hops.

able proportion of clay; but works freely: that of Brislington, where Mr Bartley resides, an hazal, sandy loam; nevertheless, having sowed half an acre of this soil with woad-feed, it throve so well, that he never saw a better crop at Kynsham. Having no apparatus, however, or knowledge of the manufacture, he suffered it to run to seed, learning only from the experiment, that woad is very easily cultivated, and that the only difficulty is the preparing it for the market.

SECT. VI. *Hops.*

133
Hops for-
bid by act
of parlia-
ment.

THE uses of these, as an ingredient in malt-liquors, are well known. Formerly, however, they were supposed to possess such deleterious qualities, that the use of them was forbid by act of parliament in the reign of James VI. But though this act was never repealed, it does not appear that much regard was ever paid to it, as the use of hops has still continued, and is found not to be attended with any bad effects on the human constitution. The only question, therefore, is, How far the raising a crop of them may be profitable to an husbandman? and indeed this seems to be very doubtful.

Annals of
Agriculture,
vol. ii.

134
Expence of
cultivating
them at
Castle Hed-
ingham.

135
In Essex.

Mr Arthur Young, in a fortnight's tour through Kent and Essex, informs us†, that at Castle Hedingham he was told by a Mr Rogers, who had a considerable hop-plantation, that four acres of hop-ground cost him upwards of 120l. and that the usual expences of laying out an acre of ground in this way amounted to 34l. 6s. By a calculation of the expences of an acre in Kent, it appeared that the money sunk to plant an acre there amounted to 32l. 8s. 6d.; that the annual expence was 23l. and the profit no more than 1l. 8s. 1d. In another place, he was informed by a Mr Potter, who cultivated great quantities of hops, that if it were not for some extraordinary crops which occurred now and then, nobody would plant them. In Essex, the expences of an hop-plantation are still greater than those we have yet mentioned; an acre many years ago requiring 75l. to lay it out on hops, and now not less than 100l. the annual expence being estimated at 31l. 1s. while the produce commonly does not exceed 32l.

In the neighbourhood of Stow-market in this county, Mr Young informs us, there are about 200 acres planted with hops, but "18 or 20 are grubbed up within two years, owing to the badness of the times." Here they are planted on a black loose moor, very wet and boggy; and the more wet the better for the crop, especially if the gravel, which constitutes the bottom, be not more than three feet from the surface. In preparing the ground for hops, it is formed into beds 16 feet wide, separated from each other by trenches. In these beds they make holes six feet asunder, and about 12 inches diameter, three rows upon a bed. Into each hole they put about half a peck of very rotten dung or rich compost; scatter earth upon it, and plant seven sets in each; drawing earth enough to them afterwards to form something of an hillock. A hop garden, Mr Young informs us, "will last almost for ever, by renewing the hills that fail, to the amount of about a score annually; but it is reckoned better to grub up and new-plant it every 20 or 25 years."

In this volume of the Annals, Mr Young informs

us, that "one profit of hop-land is that of breaking it up. Mr Potter grubbed up one garden, which failing, he ploughed and sowed barley, the crop great; then mazagan beans, two acres of which produced 16 quarters and five bushels. He then sowed it with wheat, which produced 13 quarters and four bushels and an half; but since that time the crops have not been greater than common. The same gentleman has had 10 quarters of oats after wheat." In the ninth volume of the same work, however, we have an account of an experiment by Mr Le Bland of Sittingbourn in Kent, of grubbing up 12 acres of hop-ground, which was not attended with any remarkable success. Part of the hops were grubbed up in the year 1781, and mazagan beans sown in their stead; but by reason of the seed being bad, and the dry summer, the crop turned out very indifferent. Next year the remainder of the hops were grubbed up, and the whole 12 acres sown with wheat; but still the crop turned out very bad, owing to the wet summer of that year. It was next planted with potatoes, which turned out well; and ever since that time the crops have been good. This gentleman informs us, that the person who had the hop-ground above mentioned did not lose less by it than 1500l.

The culture of hops seems to be confined in a great measure to the southern counties of England; for Mr Marshall mentions it as a matter of surprise, that in Norfolk he saw a "tolerably large hop garden." The proprietor informed him, that three or four years before there had been 10 acres of hops in the parish (Blowfield) where he resided; which was more than could be collected in all the rest of the county; but at that time there were not above five; and the culture was daily declining, as the crops, owing to the low price of the commodity, did not defray the expence.

From all this it appears, that hops are perhaps the most uncertain and precarious crop on which the husbandman can bestow his labour. Mr Young is of opinion, that some improvement in the culture is necessary; but he does not mention any, excepting that of planting them in espaliers. This method was recommended both by Mr Rogers and Mr Potter above-mentioned. The former took the hint from observing, that a plant which had been blown down, and afterwards shot out horizontally, always produced a greater quantity than those which grew upright. He also remarks, that hops which are late picked carry more next year than such as are picked early; for which reason he recommends the late picking. The only reason for picking early is, that the hops appear much more beautiful than the others.

SECT. VII. *Cultivation of Fruit.*

IN Herefordshire and Gloucestershire the cultivation of fruit for the purpose of making a liquor from the juice, forms a principal part of their husbandry. In Devonshire also considerable quantities of this kind of liquor are made, though much less than in the two counties above-mentioned.

The fruits cultivated in Herefordshire and Gloucestershire are, the apple, the pear, and the cherry. From the two first are made the liquors named *cyder* and *per-ry*; but though it is probable that a liquor of some value might be made from cherries also, it does not appear

Cultivation
of fruit.
136
Profit of
breaking
up hop-
land preca-
rious.

137
Culture of
hops in
Norfolk on
the decline.

138
Fruits cul-
tivated in
Hereford-
shire and
Gloucester-
shire.

pear

Cultivation
of fruit.139
Varieties of
fruits en-
tirely arti-
ficial.140
Varieties
cannot be
made per-
manent.

pear to have ever been attempted. Mr Marshall remarks, that nature has furnished only one species of pears and apples, viz. the common crab of the woods and hedges, and the wild pear, which is likewise pretty common. The varieties of these fruits are entirely artificial, being produced not by seed, but by a certain mode of culture; whence it is the business of those who wish to improve fruit therefore, to catch at superior accidental varieties; and having raised them by cultivation to the highest perfection of which they are capable, to keep them in that state by artificial propagation. Mr Marshall, however, observes, that it is impossible to make varieties of fruit altogether permanent, though their duration depends much upon management. "A time arrives (says he) when they can no longer be propagated with success. All the old fruits which raised the fame of the liquors of this country are now lost, or so far on the decline as to be deemed irrecoverable. The *redstreak* is given up; the celebrated *stir-apple* is going off; and the *squash-pear*, which has probably furnished this country with more *champaign* than was ever imported into it, can no longer be got to flourish: the stocks canker, and are unproductive. In Yorkshire similar circumstances have taken place: several old fruits which were productive within my own recollection are lost; the stocks cankered, and the trees would no longer come to bear."

Our author controverts the common notion among orchard-men, that the decline of the old fruits is owing to a want of fresh grafts from abroad, particularly from Normandy, from whence it is supposed that apples were originally imported into this country. Mr Marshall, however, thinks, that these original kinds have been long since lost, and that the numerous varieties of which we are now possessed were raised from seed in this country. He also informs us, that at Ledbury he was shown a Normandy apple-tree, which, with many others of the same kind, had been imported immediately from France. He found it, however, to be no other than the *bitter sweet*, which he had seen growing as a neglected wilding in an English hedge.

141
Mr Mar-
shall's di-
rections for
raising new
varieties of
fruit.

The process of raising new varieties of apples, according to Mr Marshall, is simple and easy. "Elect (says he) among the native species individuals of the highest flavour; sow the seeds in a highly enriched feed-bed. When new varieties, or the improvement of old ones, are the objects, it may perhaps be eligible to use a frame or stove; but where the preservation of the ordinary varieties only is wanted, an ordinary loamy soil will be sufficient. At any rate, it ought to be perfectly clean at least from root weeds, and should be double dug from a foot to 18 inches deep.—The surface being levelled and raked fine, the seeds ought to be scattered on about an inch asunder, and covered about half an inch deep with some of the finest mould previously raked off the bed for that purpose. During summer the young plants should be kept perfectly free from weeds, and may be taken up for transplantation the ensuing winter; or if not very thick in the feed-bed, they may remain in it till the second winter.

142
Of the
nursery
ground.

The nursery ground ought also to be enriched, and double dug to the depth of 14 inches at least; though 18 or 20 are preferable. The seedling plants ought to be sorted agreeably to the strength of their roots, that they may rise evenly together. The top or downward

roots should be taken off, and the longer side rootlets shortened. The young trees should then be planted in rows three feet asunder, and from 15 to 18 inches distant in the rows; taking care not to cramp the roots, but to lead them evenly and horizontally among the mould. If they be intended merely for stocks to be grafted, they may remain in this situation until they be large enough to be planted out; though, in strict management, they ought to be re-transplanted two years before their being transferred into the orchard, "in fresh but unmanured double-dug ground, a quincunx four feet apart every way." In this second transplantation, as well as in the first, the branches of the root ought not to be left too long, but to be shortened in such a manner as to induce them to form a globular root, sufficiently small to be removed with the plant; yet sufficiently large to give it firmness and vigour in the plantation.

Having proceeded in this manner with the seed-bed, our author gives the following directions. "Select from among the seedlings the plants whose wood and leaves wear the most *apple-like* appearance. Transplant these into a rich deep soil in a genial situation, letting them remain in this nursery until they begin to bear. With the seeds of the fairest, richest, and best flavoured fruit repeat this process; and at the same time, or in due season, engraft the wood which produced this fruit on that of the richest, sweetest, best-flavoured apple: repeating this operation, and transferring the subject under improvement from one tree and sort to another, as richness, flavour, or firmness may require; continuing this double mode of improvement until the desired fruit be obtained. There has, no doubt, been a period when the improvement of the apple and pear was attended to in this country; and should not the same spirit of improvement revive, it is probable that the country will, in a course of years, be left destitute of valuable kinds of these two species of fruit; which, though they may in some degree be deemed objects of luxury, long custom seems to have ranked among the necessities of life."

In the fourth volume of Bath Papers, Mr Grimwood supposes the degeneracy of apples to be rather imaginary than real. He says, that the evil complained of "is not a real decline in the quality of the fruit, but in the tree; owing either to want of health, the season, soil, mode of planting, or the stock they are grafted on, being too often raised from the seed of apples in the same place or county.—I have not a doubt in my own mind, but that the trees which are grafted on the stocks raised from the apple-pips are more tender than those grafted on the real crab-stock; and the seasons in this country have, for many years past, been unfavourable for fruits, which add much to the supposed degeneracy of the apple. It is my opinion, that if planters of orchards would procure the trees grafted on real crab-stocks from a distant country, they would find their account in so doing much overbalance the extra expence of charge and carriage.

In the same volume, Mr Edmund Gillingwater assigns as a reason for the degeneracy of apples the mixture of various farina, from the orchards being too near each other. In consequence of this notion, he also thinks that the old and best kinds of apple trees are not lost, but only corrupted from being

Cultivation
of fruit.143
Method of
choosing
the plants.144
Mr Grim-
wood's opi-
nion of the
degeneracy
of apples.145
Mr Gilling-
water's opi-
nion.

Cultivation
of fruit.

146
Mr Samuel's
opinion of the
method of re-
covering the
best fruit.

147
Cultiva-
tion, &c.
of fruit-
trees.

148
Method of
managing
the ground
of orchards
in Here-
fordshire
and Glou-
cestershire.

planted too near bad neighbours: "Remove them (says he) to a situation where they are not exposed to this inconvenience, and they will immediately recover their former excellency." This theory, however, is not supported by a single experiment.

In this volume also Mr Richard Samuel expresses his concern at the "present neglect of orchards, where the old trees are decaying, without proper provision being made for the succeeding age: for if a farmer plants fresh trees (which does not frequently happen), there is seldom any care taken to propagate the better sorts, as his grafts are usually taken promiscuously from any ordinary kind most easily procured in the neighbourhood." His remedy is to collect grafts from the best trees; by which means he supposes that the superior kinds of fruit would soon be recovered. To a care of this kind he attributes the superiority of the fruit in the neighbourhood of great towns to that in other places.

With regard to the method of cultivating fruit-trees, it is only necessary to add, that while they remain in the nursery, the intervals betwixt them may be occupied by such kitchen-stuff as will not crowd or overshadow the plants; keeping the rows in the mean time perfectly free from weeds. In pruning them, the leader should be particularly attended to. If it shoot double, the weaker of the contending branches should be taken off; but if the leader be lost, and not easily recoverable, the plant should be cut down to within a hand's breadth of the soil, and a fresh stem trained. The undermost boughs should be taken off by degrees, going over the plants every winter; but taking care to preserve heads of sufficient magnitude not to draw the stems up too tall, which would make them feeble in the lower part. The stems in Herefordshire are trained to six feet high; but our author prefers seven, or even half a rod in height. A tall stemmed tree is much less injurious to what grows below it than a low-headed one, which is itself in danger of being hurt, at the same time that it hurts the crop under it. The thickness of the stem ought to be in proportion to its height; for which reason a tall stock ought to remain longer in the nursery than a low one. The usual size at which they are planted out in Herefordshire is from four to six inches girt at three feet high; which size, with proper management, they will reach in seven or eight years. The price of these stocks in Herefordshire is 18d. each. Our author met with one instance of crabstocks being gathered in the woods with a good prospect of success.

In Herefordshire it is common to have the ground of the orchards in tillage, and in Gloucestershire in grass; which Mr Marshall supposes to be owing to the difference betwixt the soil of the two counties; that of Herefordshire being generally arable, and Gloucestershire grass land. Trees, however, are very destructive, not only to a crop of corn, but to clover and turnips; though tillage is favourable to fruit-trees in general, especially when young. In grass grounds their progress is comparatively slow, for want of the earth being stirred about them, and by being injured by the cattle, especially when low-headed and drooping. After they begin to bear, cattle ought by all means to be kept away from them, as they not only destroy all the fruit within their reach, but the fruit itself is dangerous to the cattle, being apt to stick in their throats and choke

Nº 160.

them. These inconveniences may be avoided, by eating the fruit grounds bare before the gathering season, and keeping the boughs out of the way of the cattle: but Mr Marshall is of opinion, that it is wrong to plant orchards in grass land. "Let them (says he) lay their old orchards to grass: and if they plant, break up their young orchards to arable. This will be changing the course of husbandry, and be at once beneficial to the land and the trees.

Our author complains very much of the indolent and careless method in which the Herefordshire and Gloucestershire farmers manage their orchards. The natural enemies of fruit-trees (he says) are, 1. A redundancy of wood. 2. The mistletoe. 3. Moss. 4. Spring frosts. 5. Blights. 6. Insects. 7. An excess of fruit. 8. Old age.

1. A redundancy of wood is prejudicial, by reason of the barren branches depriving those which bear fruit of the nourishment which ought to belong to them. A multitude of branches also give the winds such an additional power over the tree, that it is in perpetual danger of being overthrown by them: trees are likewise thus injured by the damps and want of circulation of air, so that only the outer branches are capable of bringing fruit to maturity. "It is no uncommon sight (says he) to see trees in this district, with two or three tires of boughs pressing down hard upon one another, with their twigs so intimately interwoven, that even when the leaves are off, a small bird can scarcely creep in among them.

2. The mistletoe in this country is a great enemy to the apple-tree. It is easily pulled out with hooks in frosty weather, when, being brittle, it readily breaks off from the branches. It likewise may be applied to a profitable purpose, sheep being as fond of it as of ivy.

3. Moss can only be got the better of by industry in clearing the trees of it; and in Kent there are people who make it their profession to do so.

4. Spring-frosts, especially when they suddenly succeed rain, are great enemies to fruit-trees; dry frosts only keep back the blossoms for some time. Art can give no farther assistance in this case than to keep the trees in a healthy and vigorous state, so as to enable them to throw out a strength of bud and blossom; and by keeping them thin of wood, to give them an opportunity of drying quickly before the frost set in.

5. Blight is a term, as applied to fruit-trees, which Mr Marshall thinks is not understood. Two bearing years, he remarks, seldom come together; and he is of opinion, that it is the mere exhausting of the trees by the quantity of fruit which they have carried one year, that prevents them from bearing any the next. The only thing therefore that can be done in this case is, to keep the trees in as healthy and vigorous a state as possible.

6. Insects destroy not only the blossoms and leaves, but some of them also the fruit, especially pears. In the year 1783 much fruit was destroyed by wasps. Mr Marshall advises to set a price upon the female wasps in the spring; by which these mischievous insects would perhaps be exterminated, or at least greatly lessened.

7. An excess of fruit stunts the growth of young trees, and renders all in general barren for two or three years; while in many cases the branches are broken

Cultivation
of fruit.

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Indolence
of the far-
mers in
these parts
complained
of.

150
Excess of
wood how
remedied.

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Mistletoe
how de-
stroyed.

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Moss.

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Spring
frosts.

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Blights an
uncertain
term.

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Method
proposed of
destroying
wasps.

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Of an ex-
cess of
fruit.

Timber-trees.

off by the weight of the fruit; and in one case Mr Marshall mentions, that an entire tree had sunk under its burthen. To prevent as much as possible the bad effects of an excess of fruit, Mr Marshall recommends "to graft in the boughs," and when fully grown, to thin the bearing branches; thus endeavouring, like the gardener, to grow fruit every year."

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Duration of
fruit-trees
may be
lengthened.

8. Though it is impossible to prevent the effects of old age, yet by proper management the natural life of fruit-trees may be considerably protracted. The most eligible method is to graft stocks of the native crab in the boughs. The decline of the tree is preceded by a gradual decline of fruitfulness, which long takes place before the tree manifests any sign of decay. During this decline of fruitfulness, there is a certain period when the produce of a tree will no longer pay for the ground it occupies, and beyond this period it ought by no means to be allowed to stand. In the Vale of Gloucester, however, our author saw an instance of some healthy bearing apple-trees, which then had the second tops to the same stems. The former tops having been worn out, were cut off, and the stumps saw-grafted. Our author observes, that the pear-tree is much longer lived than the apple, and ought never to be planted in the same ground. He concludes with the following general observation: "Thus considering fruit-trees as a crop in husbandry, the general management appears to be this: Plant upon a recently broken-up worn-out sward. Keep the soil under a state of arable management, until the trees be well grown: then lay it down to grass, and let it remain in sward until the trees be removed, and their roots be decayed; when it will again require a course of arable management."

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Mr Marshall's ob-
servation
on the cul-
ture of tim-
ber-trees.

SECT. VIII. *Of Timber-Trees.*

THE importance and value of these is so well known, that it is superfluous to say any thing on that subject at present: notwithstanding this acknowledged value, however, the growth of timber is so slow, and the returns for planting so distant, that it is generally supposed for a long time to be a positive loss, or at least to be attended with no profit. This matter, however, when properly considered, will appear in another light.

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Different
kinds of
woodlands.

There are four distinct species of woodlands; viz. woods, timber-groves, coppices, and woody wastes. The woods are a collection of timber-trees and underwood; the timber-groves contain timber-trees without any underwood; and the coppices are collections of underwood alone. All these turn out to advantage sooner or later, according to the quick or slow growth of the trees, and the situation of the place with respect to certain local advantages. Thus in some places underwood is of great consequence, as for rails, hoops, stakes, fuel, &c. and by reason of the quickness of its growth it may be accounted the most profitable of all plantations. An osier-bed will yield a return of profit the second or third year, and a coppice in 15 or 20 years; while a plantation of oaks will not arrive at perfection in less than a century. This last period is so long, that it may not unreasonably be supposed likely to deter people from making such plantations of this kind, as few are willing to take any trouble for what they are never to see in perfection. It must be

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What plan-
tations will
soonest
bring in a
return of
profit.

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remembered, however, that though the trees themselves do not come to perfection in a shorter time, the value of the ground will always increase in proportion to their age. Thus, says one author upon this subject, "we have some knowledge of a gentleman now living, who during his lifetime has made plantations, which in all probability will be worth to his son as much as his whole estate, handsome as it is. Supposing that those plantations have been made 50 or 60 years, and that in the course of 20 or 30 more they will be worth L. 50,000; may we not say, that at present they are worth some 20,000 l. or 30,000 l.?" Mr Pavier, in the 4th volume of Bath Papers, computes the value of 50 acres of oak timber in 100 years to be L. 12,100, which is nearly 50s. annually per acre; and if we consider that this is continually accumulating without any of that expence or risk to which annual crops are subject, it is probable that timber-planting may be accounted one of the most profitable articles in husbandry. Evelyn calculates the profit of 1000 acres of oak-land in 150 years, at no less than L. 670,000; but this is most probably an exaggeration. At any rate, however, it would be improper to occupy, especially with timber of such slow growth, the grounds which either in grass or corn can repay the trouble of cultivation with a good annual crop.

Timber-trees.

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Advantages of
planting.

In the fourth volume of the Bath Papers, Mr Wagstaffe recommends planting as an auxiliary to cultivation. He brings an instance of the success of Sir William Jerringham, who made trial of "the most unpromising ground perhaps that any successful planter has hitherto attempted." His method was to plant beech trees at proper distances among Scotch firs, upon otherwise barren heaths. "These trees (says Mr Wagstaffe), in a soil perhaps without clay or loam, with the heathy sod trenched into its broken strata of sand or gravel, under the protection of the firs, have laid hold, though slowly, of the soil; and accelerated by the superior growth of the firs, have proportionally risen, until they wanted an enlargement of space for growth when the firs were cut down." He next proceeds to observe, that when the firs are felled, their roots decay in the ground; and thus furnish by that decay a new support to the soil on which the beeches grow: by which means the latter receive an additional vigour, as well as an enlargement of space and freer air; the firs themselves, though cut down before they arrived at their full growth, being also applicable to many valuable purposes.

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Planting
meliorates
the soil.

In the 6th volume of Annals of Agriculture, we find the culture of trees recommended by Mr Harries: and he informs us, that the larch is the quickest grower and the most valuable of all the resinous timber-trees; but unless there be pretty good room allowed for the branches to stretch out on the lower part of the trunk, it will not arrive at any considerable size; and this observation, he says, holds good of all pyramidal trees. Scotch firs may be planted between them, and pulled out after they begin to obstruct the growth of the larch. Some of these larches he had seen planted about 30 years before, which at five feet distance from the ground measured from four feet to five feet six inches in circumference. The most barren grounds, he says, would answer for these trees, but better soil is required for the oaks. In this paper he takes no-

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Culture of
timber-
trees re-
commended
by Mr
Harries.

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trees.
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Increase of
oak-trees.

tice of the leaves of one of his plantations of oaks having been almost entirely destroyed by insects; in consequence of which they did not increase in bulk as usual: but another which had nearly escaped these ravages, increased at an average one inch in circumference. "A tree four feet round (says he), that has timber 20 feet in length, gains by this growth a solid foot of timber annually, worth one shilling at least, and pays 5 *per cent.* for standing. It increases more as the tree gets from five to six feet round. I have a reasonable hope to infer from my inquiry, that I have in my groves 3000 oaks that pay me one shilling each per annum, or L.150 a year. My poplars have gained in circumference near two inches, and a Worcester and witch elm as much. I have lately been informed, that the smooth cut of a holly-tree, that measures 20 inches and upwards round, is worth to the cabinet-makers 2s. and 6d. per foot.

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Increase of
trees in the
Marquis
of Lans-
downe's
plantation.

The following table shows the increase of trees in 21 years from their first planting. It was taken from the marquis of Lansdowne's plantation, begun in the year 1765, and the calculation made on the 15th of July 1786. It is about six acres in extent, the soil partly a swampy meadow upon a gravelly bottom. The measures were taken at five feet above the surface of the ground; the small firs having been occasionally drawn for posts and rails, as well as rafters for cottages; and when peeled of the bark, will stand well for seven years.

	Height in Feet.	Circumference in Feet. Inch.
Lombardy poplar -	60 to 80	4 8
Arbeal - - -	50 to 70	4 6
Plane - - -	50 to 60	3 6
Acacia - - -	50 to 60	2 4
Elm - - -	40 to 60	3 6
Chestnut - - -	30 to 50	2 9
Weymouth pines -	30 to 50	2 5
Cluster ditto -	30 to 50	2 5
Scotch fir - - -	30 to 50	2 10
Spruce ditto - -	30 to 50	2 2
Larch - - -	50 to 60	3 10

From this table it appears, that planting of timber-trees, where the return can be waited for during the space of 20 years, will undoubtedly repay the original profits of planting, as well as the interest of the money laid out; which is the better worth the attention of a proprietor of land, that the ground on which they grow may be supposed good for very little else. From a comparative table of the growth of oak, ash, and elm timber, given in the 11th volume of the Annals of Agriculture, it appears that the oak is by much the slowest grower of the three.

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Of under-
wood, &c.

With respect to the growth of under-wood, which in some cases is very valuable, it is to be remarked, that in order to have an annual fall of it, the whole quantity of ground, whatever its extent may be, ought to be divided into annual sowings. The exact number of sowings must be regulated by the uses to which it is intended to be put. Thus if, as in Surrey, stakes, edders, and hoops are saleable, there ought to be eight or ten annual sowings; or if, as in Kent, hop-poles are demanded, 14 or 15 will be required; and if, as in Yorkshire, rails be wanted, or, as in Gloucestershire, cordwood be most marketable, 18 or 20

sowings will be necessary to produce a succession of annual falls. Thus the business, by being divided, will be rendered less burthenome: a certain proportion being every year to be done, a regular set of hands will, in proper season, be employed; and by beginning upon a small scale, the errors of the first year will be corrected in the practice of the second, and those of the second in that of the third. The produce of the intervals will fall into regular course; and when the whole is completed, the falls will follow each other in regular succession. The greatest objection to this method of sowing woodlands is the extraordinary trouble in fencing: but this objection does not hold if the sowings lie at a distance from one another; on the contrary, if they lie together, or in plots, the entire plot may be inclosed at once; and if it contain a number of sowings, some subdivisions will be necessary, and the annual sowings of these subdivisions may be fenced off with hurdles, or some other temporary contrivance; but if the adjoining land be kept under the plough, little temporary fencing will be necessary. It must be observed, however, that in raising a woodland from seeds, it is not only necessary to defend the young plants against cattle and sheep, but against hares and rabbits also: so that a close fence of some kind is absolutely necessary. See the articles FENCE and HEDGE.

With regard to the preparation of the ground for raising timber, it may be observed, that if the soil be of a stiff clayey nature, it should receive a whole year's fallow as for wheat; if light, a crop of turnips may be taken; but at all events it must be made perfectly clean before the tree seeds be sown, particularly from perennial root weeds; as, after the seeds are sown, the opportunity of performing this necessary business is in a great measure lost. If the situation be moist, the soil should be gathered into wide lands, sufficiently round to let the water run off from the surface, but not high. The time of sowing is either the month of October or March; and the method as follows: "The land being in fine order, and the season favourable, the whole should be sown with corn or pulse adapted to the season of sowing: if in autumn, wheat or rye may be the crop; but if in spring, beans or oats. Whichever of these three species be adopted, the quantity of seed ought to be less than usual, in order to give a free admission of air, and prevent the crop from lodging. The sowing of the grain being completed, that of the tree-seeds must be immediately set about. These are to be put in drills across the land: acorns and nuts should be dibbled in, but keys and berries scattered in trenches or drills drawn with the corner of a hoe, in the manner that gardeners sow their pease. The distance might be a quarter of a statute rod, or four feet and one inch and an half. A land chain should be used in setting out the drills, as not being liable to be lengthened or shortened by the weather. It is readily divided into rods; and the quarters may be easily marked.

The species of under-wood to be sown must be determined by the consumpt of it in the neighbourhood of the plantation. Thus, if stakes, hoops, &c. be in request, the oak, hazel, and ash, are esteemed as under-wood. Where charcoal is wanted for iron-forges, beech is the prevailing underwood. The oak,
box,

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Method of
sowing.

Timber-trees.

box, birch, &c. are all in request in different countries, and the choice must be determined by the prevailing demand. As the keys of the ash sometimes lie two or even three years in the ground, it will be proper to have the places where they are sown distinguished by some particular marks, to prevent them from being disturbed by the plough after harvest; as a few beans scattered along with them, if the crop be oats; or oats, if the crop be beans. The crop should be *reaped*, not *mown*, at harvest time, and be carried off as fast as possible. Between harvest and winter, a pair of furrows should be laid back to back in the middle of each interval, for meliorating the next year's crop, and laying the seedling plants dry; while the stubble of the unploughed ground on each side of the drills will keep them warm during the winter. The next year's crop may be potatoes, cabbages, turnips, or if the first was corn, this may be beans; if the first was beans, this may be wheat drilled. In the spring of the third year the drills which rose the first year must be looked over, and the vacancies filled up from those parts which are thickest; but the drills of the ash should be let alone till the fourth year. The whole should afterwards be looked over from time to time; and this, with cultivating the intervals, and keeping the drills free from weeds, will be all that is necessary until the tops of the plants begin to interfere.

The crops may be continued for several years; and if they only pay for the expences, they will still be of considerable advantage by keeping the ground stirred, and preserving the plants from hares and rabbits. Even after the crops are discontinued, the ground ought still to be stirred, alternately throwing the

mould to the roots of the plants, and gathering it into a ridge in the middle of the interval. The best method of doing this is to split the ground at the approach of winter in order to throw it up to the trees on both sides; this will preserve the roots from frost: gather it again in the spring, which will check the weeds, and give a fresh supply of air: split again at mid-summer, to preserve the plants from drought: gather, if necessary, in autumn, and split as before at the approach of winter. The spring and mid-summer ploughings should be continued as long as a plough can pass between the plants.

Whenever the oaks intended for timber are in danger of being drawn up too slender for their height, it will be necessary to cut off all the rest at the height of about an handbreadth above the ground; and those designed to stand must now be planted at about two rods distant from each other, and as nearly a quincunx as possible. The second cutting must be determined by the demand there is for the under-wood; with only this proviso, that the timber stands be not too much crowded by it; for rather than this should be the case, the coppice should be cut, though the wood may not have reached its most profitable state. What is here said of the method of rearing oak-trees in woods, is in a great measure applicable to that of raising other trees in timber-groves. The species most usually raised in these are the ash, elm, beech, larch, spruce fir, Weymouth pine, poplar, willow, alder, chestnut, walnut, and cherry. The three last are used as substitutes for the oak and beech, and these two for the mahogany.

Timber-trees.

PART III. Of the CATTLE proper to be employed in FARM-WORK; REARING and MANAGEMENT of them. Of HOGS, POULTRY, &c. MANAGEMENT of BEES. Of the DAIRY. Of MANURES.

SECT. I. Of the Cattle proper to be employed.

As great part of the stock of an husbandman must always consist of cattle, and one of his principal expences in the maintenance of them, this part of his business is certainly to be looked upon as one of the most important of the whole. The cattle belonging to a farm may be divided into two classes, viz. such as are intended for work, and such as are designed for sale. The former are now principally horses, the oxen formerly employed being fallen into disuse, though it does not yet certainly appear that the reasons for the exchange are satisfactory. In the second volume of Bath Papers, we have account of a comparative experiment of the utility of horses and oxen in husbandry by Mr Kedington near Bury in Suffolk, in which the preference is decisively given to oxen. He informs us, that at the time he began the experiment (in 1779), he was almost certain that there was not an ox worked in the whole county; finding, however, the expence of horses very great, he purchased a single pair of oxen, but found much difficulty in breaking them, as the workmen were so much prejudiced against them, that they would not take the proper pains. At last he met with a labourer who undertook the task; and the

oxen "soon became as tractable and as handy, both at ploughing and carting, as any horses." On this he determined to part with all his cart-horses; and by the time he wrote his letter, which was in 1781, he had not a single horse, nor any more than six oxen; which inconsiderable number performed with ease all the work of his farm (consisting of upwards of 100 acres of arable land and 60 of pasture and wood), besides the statute duty on the highways, timber and corn, carting, harrowing, rolling, and every part of rural business. They are constantly shod; their harness is the same as that of horses (excepting the necessary alterations for difference of size and shape); they are driven with bridles and bits in their mouths, answering to the same words of the ploughman and carter as horses will do. A single man holds the plough, and drives a pair of oxen with reins: and our author informs us, that they will plough an acre of ground in less than eight hours time; he is of opinion that they would do it in seven. The intervals of a small plantation, in which the trees are set in rows ten feet asunder, are ploughed by a single ox with a light plough, and he is driven by the man who holds it. The oxen go in a cart either single, or one, two, or three, according to the load. Four oxen will draw 80 bushels of barley or oats in a waggon with ease; and if good

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Mr Kedington's experiment on the comparative utility of horses and oxen.

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Reasons for preferring oxen to horses.

of their kind, will travel as fast as horses with the same load. One ox will draw 40 bushels in a light cart, which our author thinks is the best carriage of any. On the whole, he prefers oxen to horses for the following reasons.

1. They are kept at much less expence, never eating meal or corn of any kind. In winter they are fed with straw, turnips, carrots, or cabbages; or instead of the three last, they have each a peck of bran per day while kept constantly at work. In the spring they eat hay; and if working harder than usual in feed-time, they have bran besides. When the vetches are fit for mowing, they get them only in the stable. After the day's work in summer they have a small bundle of hay, and stand in the stable till they cool; after which they are turned into the pasture. Our author is of opinion, that an ox may be maintained in condition, for the same constant work as an horse, for at least 4l. less annually.

2. After a horse is seven years old, his value declines every year; and when lame, blind, or very old, he is scarce worth any thing; but an ox, in any of these situations, may be fatted, and sold for even more than the first purchase; and will always be fat sooner after work than before.

3. Oxen are less liable to diseases than horses.

4. Horses are frequently liable to be spoiled by servants riding them without their master's knowledge, which is not the case with oxen.

5. A general use of oxen would make beef plentiful, and consequently all other meat; which would be a national benefit.

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Difficulty in shoeing oxen.

Mr Kedington concludes his paper with acknowledging, that there is one inconvenience attending the use of oxen, viz. that it is difficult to shoe them; tho' even this, he thinks, is owing rather to the unskillfulness of the smiths who have not been accustomed to shoe these animals, than to any real difficulty. He confines them in a pound while the operation is performing.

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Mr Marshall's calculations.

Mr Marshall, in his Rural Economy of the Midland counties, shows the advantage of employing oxen in preference to horses from the mere article of expence, which, according to his calculation, is enormous on the part of the horses. He begins with estimating the number of square miles contained in the kingdom of England; and this he supposes to be 30,000 of cultivated ground. Supposing the work of husbandry to be done by horses only, and each square mile to employ 20 horses, which is about 3 to 100 acres, the whole number used throughout Britain would be 600,000; from which deducting one sixth for the number of oxen employed at present, the number of horses just now employed will be 500,000. Admitting that each horse works ten years, the number of farm-horses which die annually are no fewer than 50,000; each of which requires full four years keep before he is fit for work. Horses indeed are broke in at three, some at two, years old, but they are, or ought to be, indulged in keep and work till they are six; so that the cost of rearing and keeping may be laid at full four ordinary years. For all this consumption of vegetable produce he returns not the community a single article of food, clothing, or commerce; even his skin for economical purposes being barely worth the taking off. By working horses in the affairs of husbandry, therefore, "the community is losing annually the amount

of 200,000 years keep of a growing horse;" which at the low estimate of five pounds a-year, amounts to a million annually. On the contrary, supposing the business of husbandry to be done solely by cattle, and admitting that oxen may be fatted with the same expence of vegetable produce as that which old horses require to fit them for full work, and that instead of 50,000 horses dying, 50,000 oxen, of no more than 52 stone each, are annually slaughtered; it is evident, that a quantity of beef nearly equal to what the city of London consumes would be annually brought into the market; or, in other words, 100,000 additional inhabitants might be supplied with one pound of animal food a-day each; and this without consuming one additional blade of grass. "I am far from expecting (says Mr Marshall), that cattle will, in a short space of time, become the universal beasts of draft in husbandry; nor will I contend, that under the present circumstances of the island they ought in strict propriety to be used. But I know that cattle, under proper management, and kept to a proper age, are equal to every work of husbandry, in most if not all situations: And I am certain, that a much greater proportion than there is at present might be worked with considerable advantage, not to the community only, but to the owners and occupiers of lands. If only one of the 50,000 carcases now lost annually to the community could be reclaimed, the saving would be an object."

In Norfolk, our author informs us that horses are the only beasts of labour; and that there is not perhaps one ox worked throughout the whole county. It is the same in the Vale of Gloucester, though oxen are used in the adjoining counties. Formerly some oxen were worked in it double; but they were found to poach the land too much, and were therefore given up. Even when worked single, the same objection is made: but, says Mr Marshall, "in this I suspect there is a spice of obstinacy in the old way; a want of a due portion of the spirit of improvement; a kind of indolence. It might not perhaps be too severe to say of the Vale farmers, that they would rather be eaten up by their horses than step out of the beaten tract to avoid them." Shoeing oxen with whole shoes, in our author's opinion, might remedy the evil complained of; but "if not, let those (says he) who are advocates for oxen calculate the comparative difference in wear and keep, and those who are their enemies estimate the comparative mischiefs of trading; and thus decide upon their value as beasts of labour in the Vale." In the Cotswold oxen are worked as well as horses; but the latter, our author fears, are still in the proportion of two to one: he has the satisfaction to find, however, that the former are coming into more general use. They are worked in harness; the collar and harness being used as for horses, not reversed, as in most cases they are for oxen. "They appear (says our author) to be perfectly handy, and work, either at plough or cart, in a manner which shows, that although horses may be in some cases convenient, and in most cases pleasurable to the driver, they are by no means necessary to husbandry. A convenience used in this country is a moveable harness-house, with a sledge bottom, which is drawn from place to place as occasion may require. Thus no labour is lost either by the oxen or their drivers."

In

Cattle to be employed.

177 Why the use of oxen is declining in Yorkshire.

178 Superiority of oxen to horses.

In Yorkshire oxen are still used, though in much fewer numbers than formerly; but our author does not imagine this to be any decisive argument against their utility. The Yorkshire plough was formerly of such an unwieldy construction, that four or six oxen, in yokes, led by two horses, were absolutely requisite to draw it; but the improvements in the construction of the plough have of late been so great, that two horses are found to be sufficient for the purpose; so that as Yorkshire has all along been famous for its breed of horses, we are not to wonder at the present disuse of oxen. Even in carriages they are now much disused; but Mr Marshall assigns as a reason for this, that the roads were formerly deep in winter, and soft to the hoof in summer; but now they are universally a causeway of hard limestones, which hurt the feet of oxen even when shod. Thus it even appears matter of surprise to our author that so many oxen are employed in this county; and the employment of them at all is to him a convincing argument of their utility as beasts of draught. The timber carriers still continue to use them, even though their employment be solely upon the road. They find them not only able to stand working every day provided their feet do not fail them, but to bear long hours better than horses going in the same pasture. An ox in a good pasture soon fills his belly, and lies down to rest; but an horse can scarce satisfy his hunger in a short summer's night. Oxen are also considered as much superior at a difficult pull to horses; but this he is willing to suppose arises from their using half-bred hunters in Yorkshire, and not the true breed of cart horses. "But what (says he) are thorough-bred cart-horses? Why, a species of strong, heavy, sluggish animals, adapted solely to the purpose of draught; and according to the present law of the country, cannot, without an annual expence, which nobody bestows upon them, be used for any other purpose. This species of beasts of draught cost at four years old from 20l. to 30l.; they will, with extravagant keep, extraordinary care and attendance, and much good luck, continue to labour eight or ten years; and may then generally be sold for five shillings a-head. If we had no other species of animals adapted to the purposes of draught in the island, cart-horses would be very valuable, they being much superior to the breed of saddle horses for the purpose of draught. But it appears evident, that were only a small share of the attention paid to the breeding of draught oxen which is now bestowed on the breeding of cart-horses, animals equally powerful, more active, less costly, equally adapted to the purposes of husbandry if harnessed with equal judgment, less expensive in keep and attendance, much more durable, and infinitely more valuable after they have finished their labours, might be produced. A steer, like a colt, ought to be familiarized to harness at two or three years old, but should never be subjected to hard labour until he be five years old; from which age, until he be 15 or perhaps 20, he may be considered as in his prime as a beast of draught. An ox which I worked several years in Surrey, might at 17 or 18 years of age have challenged for strength, agility, and sagacity, the best bred cart-horse in the kingdom."

SECT. II. Of different Kinds of Horses, and the Methods of Breeding, Rearing, and Feeding them.

Different kinds of horses.

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Account of the black cart-horse.

THE midland counties of England have for some time been celebrated on account of their breed of the *black cart-horse*; though Mr Marshall is of opinion that this kind are unprofitable as beasts of draught in husbandry. The present improvement in the breed took its rise from six Zealand mares sent over by the late Lord Chesterfield during his embassy at the Hague. These mares being lodged at his lordship's seat at Bretby in Derbyshire, the breed of horses thus became improved in that county, and for some time it took the lead for the species of these animals. As the improved breed passed into Leicestershire, however, through some unknown circumstances, it became still more improved, and Leicester has for some time taken the lead. It is now found, however, that the very large horses formerly bred in this district are much less useful than such as are of a smaller size. Mr Marshall describes in magnificent terms one of these large horses, a stallion belonging to Mr Bakewell named K (A), which, he says, was the handsomest horse he ever saw. "He was (says he) the fancied *war-horse* of the German painters; who, in the luxuriance of imagination, never perhaps excelled the natural grandeur of this horse. A man of moderate size seemed to shrink behind his fore end, which rose so perfectly upright, his ears stood (as Mr Bakewell says every horse's ears ought to stand) perpendicularly over his fore feet. It may be said, with little latitude, that in grandeur and symmetry of form, viewed as a picturable object, he exceeded as far the horse which this superior breeder had the honour of showing to his Majesty, and which was afterwards shown publicly at London, as that horse does the meanest of the breed." A more *useful* horse, bred also by Mr Bakewell, however, is described as having "a thick carcase, his back short and straight, and his legs short and clean: as strong as an ox, yet active as a poney; equally suitable for a cart or a lighter carriage."

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Horses belonging to Mr Bakewell, well described.

The stallions in this county are bred either by farmers or by persons whose business it is to breed them, and who therefore have the name of *breeders*. These last either cover with them themselves, or let them out to others for the season, or sell them altogether to stallion-men who travel about with them to different places.—The prices given for them are from 50 to 200 guineas by purchase; from 40 to 80 or a hundred by the season; or from half a guinea to two guineas by the mare. The mares are mostly kept by the farmers, and are worked until near the times of foaling, and moderately afterwards while they suckle: the best time for foaling is supposed to be the month of March or April; and the time of weaning that of November.—"The price of foals (says Mr Marshall), for the last ten years, has been from five to ten pounds or guineas; for yearlings, 10 to 15 or 20; for two-year-olds, 15 to 25 or 30; for six-year-olds, from 25 to 40 guineas."—Our author acknowledges that this breed of horses, considered abstractedly in the light in which they appear here, are evidently a profitable species of live stock, and as far as there is a market for six-years-old horses of this breed, it is profitable to a

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Prices of stallions.

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Mr Marshall's observations on breeding horses.

agriculture.

(A) Mr Bakewell distinguishes all his horses, bulle, and rams, by the letters of the alphabet.

Different
kinds of
horses.

gricuture. "But (says he) viewing the business of agriculture in general, not one occupier in ten can partake of the profit; and being kept in agriculture after they have reached that profitable age, they become indisputably one of its heaviest burdens. For besides a cessation of improvement of four or five guineas a year, a decline in value of as much yearly takes place. Even the brood-mares, after they have passed that age, may, unless they be of a very superior quality, be deemed unprofitable to the farmer."

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Norfolk
breed de-
scribed.

Our author complains that the ancient breed of Norfolk horses is almost entirely worn out. They were small, brown-muzzled, and light-boned; but they could endure very heavy work with little food: two of them were found quite equal to the plough in the soil of that county, which is not deep. The present breed is produced by a cross with the large one of Lincolnshire and Leicestershire already mentioned. He approves of the Suffolk breed, which (he says) are a "half-horse half-hog race of animals, but better adapted to the Norfolk husbandry than the Leicestershire breed; their principal fault, in his opinion, is a flatness of the rib.—In the Vale of Gloucester most farmers rear their own plough-horses, breeding of horses not being practised. They are of a very useful kind, the colour mostly black, inclinable to tan-colour, short and thick in the barrel, and low on their legs. The price of a six-year-old horse from 25l. to 35l. Some cart horses are bred in Cotswold hills; the mares are worked till the time of foaling, but not while they suckle; and the foals are weaned early, while there is plenty of grain upon the ground.

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Yorkshire
horses.

Yorkshire, which has been long celebrated for its breed of horses, still stands foremost in that respect among the English counties. It is principally remarkable for the breed of saddle-horses, which cannot be reared in Norfolk, though many attempts have been made for that purpose. Yorkshire stallions are frequently sent into Norfolk; but though the foals may be handsome when young, they lose their beauty when old. In Yorkshire, on the other hand, though the foal be ever so unpromising, it acquires beauty, strength, and activity as it grows up. Mr Marshall supposes that from five to ten thousand horses are annually bred up between the eastern Morelands and the Humber.

"Thirty years ago (says Mr Marshall), strong saddle-horses, fit for the road only, were bred in the Vale; but now the prevailing breed is the fashionable coach-horse, or a tall, strong, and over-sized hunter; and the shows of stallions in 1787 were flat and spiritless in comparison with those of 1783." The black cart-horse, an object of Mr Marshall's peculiar aversion, is also coming into the Vale.

In the breeding of horses he complains greatly of the negligence of the Yorkshire people, the mares being almost totally neglected; though in the brute creation almost every thing depends upon the female.

With regard to the general maintenance of horses, we have already mentioned in this article, and that of AGRICULTURE, several kinds of food upon which experiments have been made with a view to determine the most profitable mode of keeping them. Perhaps, however, the most certain method of ascertaining this matter is by observing the practice of those counties where horses are most in use. Mr Marshall recommends

the Norfolk management of horses as the cheapest method of feeding them practised any where; which, however, he seems willing to ascribe in a great measure to the excellency of their breed. In the winter months, when little work is to be done, their only rack-meat is barley-straw; a reserve of clover-hay being usually made against the hurry of seed-time. A bushel of corn in the most busy season is computed to be an ample allowance for each horse, and in more leisure times a much less quantity suffices. Oats and sometimes barley, when the latter is cheap and unsaleable, are given; but in this case the barley is generally malted, *i. e.* steeped and afterwards spread abroad for a few days, until it begin to vegetate, at which time it is given to the horses, when it is supposed to be less heating than in its natural state. Chaff is universally mixed with horse corn: the great quantities of corn grown in this country afford in general a sufficiency of natural chaff; so that cut chaff is not much in use: the chaff, or rather the awns of barley, which in some places are thrown as useless to the dunghill, are here in good esteem as provender. Oat-chaff is deservedly considered as being of much inferior quality.—It may here be remarked, that this method of keeping horses which Mr Marshall approves of in the Norfolk farmers, is practised, and probably has been so from time immemorial, in many places of the north of Scotland; and is found abundantly sufficient to enable them to go through the labour required. In summer they are in Norfolk kept out all night, generally in clover leys, and in summer their keep is generally clover only, a few tares excepted.

In the fourth volume of the Annals of Agriculture, Mr Young gives an account of the expence of keeping horses; which, notwithstanding the vast numbers kept in the island, seems still to be very indeterminate, as the informations he received varied no less than from L. 8 to L. 25 a-year. From accounts kept on his own farm of the expence of horses kept for no other purpose than that of agriculture, he stated them as follows:

	£.	s.	d.
1763 Six horses cost per horse	10	13	0
1764 Seven do.	8	10	11
1765 Eight do.	14	6	6
1766 Six do.	12	18	9

Average on the whole L. 11 : 12 : 3.

By accounts received from Northmims in Herefordshire, the expences stood as follows:

	£.	s.	d.
1768 Expence per horse	20	7	0
1769	15	8	5
1770	14	14	2
1771	15	13	3
1772	18	4	0
1773	15	11	8
1774	14	4	5
1775	19	0	5
1776	16	14	5

Average L. 16 : 13 : 1.

On these discordant accounts Mr Young observes, undoubtedly with justice, that many of the extra expences depend on the extravagance of the servants; while some of the apparent savings depend either on their carelessness, or stealing provender to their beasts privately,

Different
kinds of
horses.

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Norfolk
manage-
ment of
horses re-
commended.

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This me-
thod fol-
lowed in
many pla-
ces in Scot-
land.

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Calcula-
tions of the
expence of
keeping hor-
ses.

Rearing
black
cattle.

privately, which will frequently be done. He concludes, however, as follows: "The more exactly the expence of horses is examined into, the more advantageous will the use of oxen be found. Every day's experience convinces me more and more of this. If horses kept for use alone, and not for show, have proved thus expensive to me, what must be the expence to those farmers who make their fat sleek teams an object of vanity? It is easier conceived than calculated.

SECT. III. *Of the Breeding and Rearing of Black Cattle.*

THESE are reared for the two different purposes, viz. work, and fattening for slaughter. For the former purpose, Mr Marshall remarks, that it is obviously necessary to procure a breed without horns. This he thinks would be no disadvantage, as *horn*, though formerly an article of some request, is now of very little value. The horns are quite useless to cattle in their domestic state, though nature has bestowed them upon them as weapons of defence in their wild state; and our author is of opinion that it would be quite practicable to produce a hornless breed of black cattle as well as of sheep, which last has been done by attention and perseverance; and there are now many hornless breeds of these creatures in Britain. Nay, he insists, that there are already three or four breeds of hornless cattle in the island; or that there are many kinds of which numbers of individuals are hornless, and from these by proper care and attention a breed might be formed. The first step is to select females; and having observed their imperfections, to endeavour to correct them by a well chosen male.

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A hornless
breed desirable
for
work.

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Properties
requisite in
black cat-
tle.

The other properties of a perfect breed of black cattle for the purposes of the dairy as well as others, ought, according to Mr Marshall, to be as follows. 1. The head small and clean, to lessen the quantity of offal. 2. The neck thin and clean, to lighten the fore-end, as well as to lessen the collar, and make it fit close and easy to the animal in work. 3. The carcass large, the chest deep, and the bosom broad, with the ribs standing out full from the spine; to give strength of frame and constitution, and to admit of the intestines being lodged within the ribs. 4. The shoulders should be light of bone, and rounded off at the lower point, that the collar may be easy, but broad to give strength; and well covered with flesh for the greater ease of draught, as well as to furnish a desired point in fattening cattle. 5. The back ought to be wide and level throughout; the quarters long; the thighs thin, and standing narrow at the round bone; the udder large when full, but thin and loose when empty, to hold the greater quantity of milk; with large dug-veins to fill it, and long elastic teats for drawing it off with greater ease. 6. The legs (below the knee and hock) straight, and of a middle length; their bone, in general, light and clean from fleshiness, but with the joints and sinews of a moderate size, for the purposes of strength and activity. 7. The flesh ought to be mellow in the state of fleshiness, and firm in the state of fatness. 8. The hide mellow, and of a middle thickness, though in our author's opinion this is a point not yet well determined.

As the milk of cows is always an article of great importance, it becomes an object to the husbandman, if possible, to prevent the waste of that useful fluid, which in the common way of rearing calves is unavoidable. A method of bringing up these young animals at less expence is proposed by the Duke of Northumberland. His plan is to make skimmed milk answer the purpose of that which is newly drawn from the teat; and which, he supposes, might answer the purpose at one third of the expence of new milk. The articles to be

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black
cattle.

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Of rearing
calves
without
milk.

*Annals of
Agriculture*,
vol. i.
p. 296.

added to the skimmed milk are treacle and the common linseed oil cake ground very fine, and almost to an impalpable powder, the quantities of each being so small, that to make 32 gallons would cost only 6 d. besides the skimmed milk. It mixes very readily and almost intimately with the milk, making it more rich and mucilaginous, without giving it any disagreeable taste. The receipt for making it is as follows. Take one gallon of skimmed milk, and to about a pint of it add half an ounce of treacle, stirring it until it is well mixed; then take one ounce of linseed oil-cake finely pulverised, and with the hand let it fall gradually in very small quantities into the milk, stirring it in the mean time with a spoon or ladle until it be thoroughly incorporated; then let the mixture be put into the other part of the milk, and the whole be made nearly as warm as new milk when it is first taken from the cow, and in that state it is fit for use. The quantity of the oil-cake powder may be increased from time to time as occasion requires, and as the calf becomes inured to its flavour. On this subject Mr Young remarks, that in rearing calves, there are two objects of great importance. 1. To bring them up without any milk at all; and, 2. To make skimmed milk answer the purpose of such as is newly milked or sucked from the cow. In consequence of premiums offered by the London Society, many attempts have been made to accomplish these desirable purposes; and Mr Budel of Wanborough in Surrey was rewarded for an account of his method. This was no other than to give the creatures a gruel made of ground barley and oats. Mr Young, however, who tried this method with two calves, assures us that both of them died, though he afterwards put them upon milk when they were found not to thrive. When in Ireland he had an opportunity of purchasing calves at three days old from 20 d. to 3 s. each; by which he was induced to repeat the experiment many times over. This he did in different ways, having collected various receipts. In consequence of these he tried hay-tea, bean-meal mixed with wheat-flour, barley and oats ground nearly, but not exactly, in Mr Budd's method; but the principal one was flax-seed boiled into a jelly, and mixed with warm water; this being recommended more than all the rest. The result of all these trials was, that out of 30 calves only three or four were reared; these few were brought up with barley and oatmeal, and a very small quantity of flax-seed jelly; one only excepted, which at the desire of his coachman was brought up on a mixture of two-thirds of skimmed milk and one third of water, with a small addition of flax jelly well dissolved.

The second object, viz. that of improving skimmed milk, according to the plan of the Duke of Northumberland, seems to be the more practicable of the two.

Mr

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Mr Young's
experi-
ments.

Rearing
black
cattle.

Mr Young informs us, that it has answered well with him for two seasons; and two farmers to whom he communicated it gave likewise a favourable report.

193
Method of
rearing
calves in
Cornwall.

In the third volume of the same work, we are informed that the Cornwall farmers use the following method in rearing their calves. "They are taken from the cow from the fourth to the sixth day; after which they have raw milk from six to ten or 14 days. After this they feed them with scalded skimmed milk and gruel made of shelled oats, from three quarts to four being given in the morning, and the same in the evening. The common family broth is thought to be as good or better than the gruel, the favour of the salt being supposed to strengthen their bowels. The proportion of gruel or broth is about one third of the milk given them. A little fine hay is set before them, which they soon begin to eat.

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Mr Crook's
method.

In the fifth volume of Bath Papers, we have an account by Mr Crook of a remarkably successful experiment on rearing calves without any milk at all. This gentleman, in 1787, weaned 17 calves; in 1788, 23; and in 1789, 15. In 1787, he bought three sacks of linseed, value L. 2, 3s. which lasted the whole three years. One quart of it was put to six quarts of water; which, by boiling 10 minutes, was reduced to a jelly: the calves were fed with this mixed with a small quantity of tea, made by steeping the best hay in boiling water. By the use of this food three times a day, he says that his calves thrive better than those of his neighbours which were reared with milk.—These unnatural kinds of food, however, are in many cases apt to produce a looseness, which in the end proves fatal to the calves. In Cornwall they remedy this sometimes by giving acorns as an astringent; sometimes by a cordial used for the human species, of which opium is the basis.

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Norfolk
method,
&c.

In Norfolk, the calves are reared with milk and turnips; sometimes with oats and bran mixed among the latter. Winter calves are allowed more milk than summer ones; but they are universally allowed new milk, or even to suck.—In the midland counties bull-calves are allowed to remain at the teat until they be six, nine, or twelve months old, letting them run either with their dams or with cows of less value bought on purpose. Each cow is generally allowed one male or two female calves. Thus they grow very fast, and become surprisingly vigorous. The method of the dairy-men is to let the calves suck for a week or a fortnight according to their strength; next they have new milk in pails for a few meals; after that new and skimmed milk mixed; then skimmed milk alone, or porridge made with milk, water, ground oats, &c. sometimes with oil-cake, &c. until cheese-making commences; after which they have whey-porridge, or sweet whey in the field, being carefully housed in the night until the warm weather come in.

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Of fatten-
ing cattle.

With regard to the method of fattening cattle, turnips are coming into general use throughout Britain. In Norfolk no other method is thought of. The general rule is, to allow them to eat their turnips in the field while the weather remains moderately warm, but to give them under cover when it becomes wet or very cold. In this respect, however, there is a considerable difference with regard to the manner in which the cattle have been brought up; for such as have been accus-

tomed to a severe climate will stand the winter in the field much better than those which have been brought up under shelter. It is likewise asserted by some, with a great deal of probability, that the flesh of cattle fattened under cover is less agreeable than that of such as are allowed to remain in the open air.

Rearing
and fatten-
ing hogs.

SECT. IV. Of the Rearing and Fattening of Hogs.

THE practice of keeping these animals is so general, especially in England, that one should think the profit attending it would be absolutely indisputable; and this the more especially when it is considered how little nicety they have in their choice of food. From such experiments, however, as have been made, the matter appears to be at least very doubtful, unless in particular circumstances. In the first volume of Annals of Agriculture, we have an experiment by Mr Mure of feeding hogs with the cluster-potato and carrots; by which it appeared, that the profit on large hogs was much greater than on small ones; the latter eating almost as much as the former, without yielding a proportionable increase of flesh. The gain was counted by weighing the large and small ones alive; and it was found, that from November 10th to January 5th, they had gained in the following proportion:

	L.	1	3	6
20 large hogs,				
20 small,		0	7	8
2 stag hogs,		1	17	8

On being finished with pease, however, it appeared, that there was not any real profit at last; for the accounts stood ultimately as follow:

Dr.	Cr.
Value of hogs at putting up,	42 hogs sold
33 coomb pease, at 14s.	fat at L 95 0 0
2 do. 2 bushels barley, at 14s.	
56 days attendance of one man, at 14d.	
950 bushels of carrots, and 598 of potatoes, at 3 ¹ / ₂ d. per bushel,	
	L. 95 0 0

In some experiments by Mr Young, related in the same volume, he succeeded still worse, not being able to clear his expences. His first experiment was attended with a loss of one guinea per hog; the second, with a loss of 11s. 8d.; the third, of only 3s. In these three the hogs were fed with pease; given whole in the two first, but ground into meal in the last. The fourth experiment, in which the hog was fed with Jerusalem artichokes, was attended with no loss; but another, in which pease were again tried, was attended with a loss of 4s. Other experiments were tried with pease, which turning out likewise unfavourable, barley was tried ground along with pease and beans. This was attended with a small profit, counting nothing for the trouble of feeding the animals. The expences on two hogs were L. 14 : 13 : 10¹/₂, the value L. 15, 11s.

Sheep, &c. 11s. 3 $\frac{1}{2}$ d. so that there was a balance in his favour of 17s. 4 $\frac{1}{2}$ d. In another experiment, in which the hogs were fed with pease and barley ground, the beans being omitted as useless, there was a profit of 12s. 3d. upon an expence of L. 20 : 15 : 9 ; which our author supposes would pay the attendance. In this experiment the pease and barley meal were mixed into a liquid like cream, and allowed to remain in that state for three weeks, till it became sour. This was attended in two other instances with profit, and in a third with loss : however, Mr Young is of opinion, that the practice will still be found advantageous on account of the quantity of dung raised ; and that the farmer can thus use his pease and barley at home without carrying them to market.

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Mr Marshall's remarks.

Mr Marshall remarks, that in the Midland district, oats are preferred to barley as a food both for young pigs and breeding sows. It is also supposed that young pigs require warm meat to make them grow quickly. Barley-meal and potatoes are used in fattening them ; beans and pease being generally disused.—In this district it is common to keep two or three pigs in the sty along with the old hogs to be fatted. This is done that there may be no waste ; as the young pigs lick out the trough clean when the old ones are served. Mr Marshall observes, that in a confined place the old ones are apt to "lord it too much over the little ones ;" for which reason he would have a separate apartment assigned to them, with a door so small that the large swine should not be able to get into it.

SECT. V. *Sheep.*

SEE the article PASTURAGE.

SECT. VI. *Rabbits.*

In particular situations these animals may be kept to advantage, as they multiply exceedingly, and require no trouble in bringing up. A considerable number of them are kept in Norfolk, where many parts, consisting of barren hills or heaths, are proper for their reception. They delight in the sides of sandy hills, which are generally unproductive when tilled ; but level ground is improper for them. Mr Marshall is of opinion, that there are few sandy or other loose-soiled hills which would not pay better in rabbit warrens than any thing else. "The hide of a bullock (says he) is not worth more than $\frac{1}{20}$ th of his carcase ; the skin of a sheep may, in full wool, be worth from a sixth to a tenth of its carcase ; but the fur of a rabbit is worth twice the whole value of the carcase ; therefore supposing a rabbit to consume a quantity of food in proportion to its carcase, it is, on the principle offered, a species of stock nearly three times as valuable as either cattle or sheep. Rabbit warrens ought to be inclosed with a stone or sod wall ; and at their first stocking, it will be necessary to form burrows to them until they have time to make them to themselves. Boring the ground horizontally with a large augre is perhaps the best method that can be practised. Eagles, kites, and other birds of prey, as well as cats, weasels, and pole-cats, are great enemies of rabbits. The Norfolk warreners catch the birds by traps placed on the tops of stumps of trees or artificial hillocks of a con-

199
Rabbits more valuable than black cattle or sheep.

200
Method of destroying birds of prey.

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cal form, on which they naturally alight.—Traps also seem to be the only method of getting rid of the other enemies ; though thus the rabbits themselves are in danger of being caught.

SECT. VII. *Poultry.*

THOUGH these make a part of every husbandman's stock, the keeping of great numbers of them will never be found attended with any advantage ; as it is certain they never will pay for the grain necessary to sustain them, if that grain must be bought. On a farm, therefore, they are only useful to pick up what would otherwise be wasted ; and even thus we can only count them profitable at certain times of the year ; and their number must always be regulated by the size of the farm.—In Norfolk a great number of turkeys are bred, of a size and quality superior to those in other parts. Mr Marshall accounts for their number in the following manner : "It is understood in general, that to rear turkeys with success, it is necessary that a male bird should be kept upon the spot to impregnate the eggs singly ; but the good housewives of this country know, that a daily intercourse is unnecessary ; and that if the hen be sent to a neighbouring cock previous to the season of exclusion, one act of impregnation is sufficient for one brood. Thus relieved from the expence and disagreeableness of keeping a male bird, most little farmers, and many cottagers, rear turkeys. This accounts for their number ; and the species and the food they are fattened with (which, I believe, is wholly buck) account for their superior size and quality."

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Great number of turkeys reared in Norfolk.

In some situations, particularly in the neighbourhood of great towns, it might perhaps be an object to rear considerable numbers of poultry, even though some part of the farm should be cultivated merely for their subsistence. It must, however, be remembered, that poultry cannot bear confinement. They are spoiled, not only by being kept in a house, but even in a yard and its environs ; for which reason Mr Young informs us, that Lord Clarendon constantly shifts his poultry through different parts of the park in which they are kept. In Norfolk it is customary to put young goslings upon green wheat.

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Poultry will not thrive when confined.

SECT. VIII. *Bees.*

THESE may be considered as of considerable importance in husbandry, on account of the unlimited demand there is for honey and wax, and the little expence at which it is obtained. It is not, however, to be expected, that in all situations the honey produced will either be in equal quantity or of equal quality. This depends on the quantity and quality of the flowers in the neighbourhood to which the bees have access. Thus the honey of Norfolk is of inferior quality to that produced in other parts ; owing, as some have supposed, to the bees feeding upon the flowers of buck-wheat, which grows in great quantity throughout the county. Mr Marshall, however, ascribes its peculiar taste to the heaths and moorish places in Norfolk, to which the bees resort, and which seems to be a natural product of the Norfolk soil. He does not however assert, that the buck can have no effect upon it : he owns that the buck-flowers are luscious and disagreeable to many people ;

203
Difference of the quantity and quality of honey.

Bees, &c.

people, though those of beans are equally so to others; but wishes that their imparting any bad quality to honey may be doubted, until positive proof be brought to the contrary.

The Morelands and Vale of Yorkshire are remarkable for the quantities of honey they produce; but it is of an inferior quality, owing, as Mr Marshall supposes, to the heath. He observes, that in the hives situated between the heaths and cultivated country, there is a remarkable difference between the vernal and autumnal combs. The former, gathered entirely from the meadows, pasture-lands, trees, and cultivated crops, are in a manner as white as snow; the latter brown, and the honey rather like melted rosin than the pure limpid consistence of the former.—In the winter of 1782, a remarkable mortality took place among the bees of this district; vast numbers of hives perishing gradually, tho' plenty of honey remained. The phenomenon appeared unaccountable; but Mr Marshall explains it with some probability, from a want of what is called *bee-bread*, and which the bees collect from the farina of the flowers, as they do the honey and wax from the nectarium and pistillum. The farina cannot be obtained until the antheræ are burst by the sun, which, in the very cold rainy season of 1782, could not be expected, as the influence of the sun was not only very small, but the farina, when once collected, was liable to be washed away by the rains. Hence, while the bread which the bees had collected in small quantity lasted, they continued to live; but when this was exhausted, they gradually perished one after another; for it is now universally allowed, that without bee-bread the life of these insects cannot be sustained, even though they have plenty of honey.

204
Mortality
among bees
in 1782 ac-
counted
for.

Bath Pa-
pers, vol. 5.
205
Mr Key's
observa-
tions.

In a paper on the subject of bees by Mr John Keys, the farina is supposed to be useful for nourishing the young brood, and the honey for the support of the old ones: hence, according to the quantity of farina to be procured the flock of bees is limited. In the place where he resided at the time his letter was wrote (near Pembroke), no more than eight hives could be kept by a single person with propriety; but at Cheshunt in Herefordshire, where he resided before, he could keep 12 or 14. In his opinion, none but the good first swarms ought to be preserved; the after-swarms should be returned to the flock, by which means the increase of honey would be much greater. "An incorporated flock (he says) will gather more honey than three or four single ones." Hives of half a bushel measure ought to weigh 20 pounds at least, and larger hives in proportion; and they ought not to be above two years of age. He laments it as a national loss, that great part of the prime swarms are suffered to escape, from an erroneous opinion about signs and hours of swarming; "whereas nothing less than a constant watching, from seven to four, can prevent this loss, but which the peasantry will not comply with." Mr Keys has in vain attempted to find an easy method of swarming them artificially.—For the general method of managing bees, see the articles *APIS* and *BEE*.

SECT. IX. *Of the Management of the Dairy.*

As this includes not only the proper method of preserving milk in a wholesome and uncorrupted state, but

the making of butter and cheese from it, it may deservedly be accounted as important a part of husbandry as any; and accordingly several treatises have been written expressly upon the subject.

Manage-
ment of the
Dairy.

In the fifth volume of Bath Papers, the subject seems to be considered in as accurate and scientific a manner by Dr Anderson as by any person who has treated this matter; at least as far as regards the making of butter. The requisites for manufacturing this valuable commodity, according to him, are the following:

1. *To have cows of a good quality.* In this we are to attend more to the quantity of cream which the milk of a cow yields, than to the absolute quantity of milk; and this may commonly be judged of from the thickness of it. The small Alderney cows (he says) afford the richest milk hitherto known; though there are many individuals of different kinds which afford much richer milk than others; and these ought carefully to be sought after, that a good breed may be established.

2. *To make the cows yield a large quantity of milk.* For this purpose they must have plenty of food; and of all other kinds the Doctor determines grass to be the best; and that grass which springs up spontaneously on rich dry soils to be the best of all. He is of opinion, however, that there is no virtue in *old* pastures, as many suppose, more than in *new* ones; and he assures us, that he has seen much richer butter made from the milk of cows fed upon hay from clover and rye-grass in the house, than such as had liberty to range in old pastures. He thinks, however, that the cows should be permitted to pasture at pleasure during the mornings and evenings, but at noon should be taken into a house, and supplied with fresh food. If abundantly fed, they should be milked three times a day; and as great care should be taken that this operation be properly performed, only confidential persons should be employed. He supposes that a cow well fed, will give as much milk each time when milked thrice, as when milked only twice.

3. *The qualities of the milk itself.* These are reduced by our author to the following aphorisms. 1. Of the milk drawn from a cow at any time, that which comes first is always thinnest, and continues to increase in thickness to the very last drop. This, as well as all the succeeding ones, are proved by experiment; and so great is the importance of attending to it, that "the person who, by bad milking of his cows, loses but half a pint of his milk, loses, in fact, as much cream as would be afforded by six or eight pints at the beginning, and loses besides that part of the cream which alone can give richness and high flavour to his butter." 2. When milk throws up cream to the surface, that portion which rises first will be thicker, and of better quality, as well as in greater quantity, than that which rises in a second equal portion of time. 3. Thick milk throws up a smaller quantity of cream to the surface than such as is thinner; but that cream is of a richer quality. If water be added to that thick milk, it will afford a considerably greater quantity of cream than before, but its quality is at the same time greatly debased. 4. Milk when carried in vessels to any distance, so as to suffer considerable agitation, never throws up cream so rich, nor in such quantity, as if the same had been put into the milk-pans without any agitation. From these aphorisms, the following corollaries are deducible. 1. The cows ought always

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Scotland.

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paration of
sweet milk.

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Wooden
utensils pre-
ferable to
every other
kind.

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Cream
ought to
be kept
some time
before it be
made into
butter.

to be milked as near the dairy as possible. 2. The milk of different cows should be kept by themselves, that the good cows may be distinguished from the bad. 3. For butter of a very fine quality, the first drawn milk ought always to be kept separate from the last.

Our author now commends the method used by the Highlanders of Scotland, where every cow is allowed to suckle her own calf. The calves are kept in an inclosure till the time of milking, when they are allowed to come to the door. Each calf there is allowed to suck its dam as long as the milk-maid pleases; when it is driven away, and the woman milks the remainder. Thus they obtain only a small quantity of milk, but of exceeding good quality; and to this practice Dr Anderson ascribes the richness of the Highland butter, which is usually attributed to the old grafs in the remote glens of the Highlands. In places where this practice cannot be economically followed, the Doctor recommends to keep the milk which comes first, and that which comes last, separate from each other. The former might be sold sweet, or made into cheese. Another use our author mentions, viz.

"Take common skimmed milk when it begins to turn sour; put it into an upright churn or barrel with one of its ends out, or any other convenient vessel; heat some water, and pour it into a tub that is large enough to contain with ease the vessel in which the milk was put. Set the vessel containing the milk into the hot water, and let it remain there for the space of one night. In the morning it will be found that the milk hath separated into two parts; a thick cream-like substance which occupies the upper part of the vessel, and a thin, serous, watery part that remains in the bottom: draw off the thin part (called here *whigg*), by opening a stop-cock placed for that purpose close above the bottom, and reserve the cream for use. Not much less than the half of the milk is thus converted into a sort of cream, which when well made seems to be as rich and fat as real cream itself, and is only distinguishable from that by its sourness. It is eaten with sugar, and esteemed a great delicacy; and usually sells at double the price of unskimmed milk."

4. Besides separating the first from the last drawn milk, it will be necessary also to take nothing but the cream first separated from the best milk. The remainder of the milk may be employed either in making cheeses, or allowed to throw up cream for butter of an inferior quality. 5. Hence it is plain, that butter of the very best quality, could be made only in a dairy of considerable extent, as only a small portion of the milk of each cow could be set apart for it. 6. Hence it appears that butter and cheese can be made in a consistency with one another; the best of the milk being set apart for the former, and the worst for the latter. But as perhaps no person would choose to give such a price for the very best butter as would indemnify the farmer for his trouble and expence, it may be sufficient to take only the first drawn half of the milk for cheese, and use the remainder for butter; and the cream of this, even though allowed to stand till it begins to turn sour, will always yield butter of a much superior quality to that produced in the ordinary manner.

Our author now proceeds to enumerate the properties of a dairy. The milk-house ought to be cool in

summer and warm in winter; so that an equal temperature may be preserved throughout the year. It ought also to be dry, so as to admit of being kept sweet and clean at all times. A separate building should be erected for the purpose, near a cool spring or running water, where the cows may have easy access to it, and where it is not liable to be incommoded by stagnant water. The apartment where the milk stands should be well thatched, have thick walls, and a ventilator in the top for admitting a free circulation of air. There should also be an apartment with a fire-place and cauldron, for the purpose of scalding and cleaning the vessels. The Doctor is of opinion, that the temperature of from 50 to 55 degrees is the most proper for separating the cream from the milk, and by proper means this might easily be kept up, or nearly so, both summer and winter.

The utensils of the dairy should be all made of wood, in preference either to lead, copper, or even cast iron. These metals are all very easily soluble in acids; the solutions of the two first highly poisonous; and though the latter is innocent, the taste of it might render the products highly disagreeable. The creaming dishes, when properly cleaned, sweet, and cool, ought to be filled with the milk as soon as it is drawn from the cow, having been first carefully strained through a cloth, or close strainer made of hair or wire: the Doctor prefers silver wire to every other. The creaming dishes ought never to exceed three inches in depth; but they may be so broad as to contain a gallon or a gallon and an half; when filled they ought to be put on the shelves of the milk-house, and remain there until the cream be fully separated. If the finest butter be intended, the milk ought not to stand above six or eight hours, but for ordinary butter it may stand twelve hours or more; yet if the dairy be very large, a sufficient quantity of cream will be separated in two, three, or four hours, for making the best butter. It is then to be taken off as nicely as possible by a skimming-dish, without lifting any of the milk; and immediately after put into a vessel by itself, until a proper quantity for churning be collected. A firm, neat, wooden barrel seems well adapted for this purpose, open at one end, and having a lid fitted to close it. A cock or spigot ought to be fixed near the bottom, to draw off any thin or serous part which may drain from the cream; the inside of the opening should be covered with a bit of fine silver wire gauze, in order to keep back the cream while the serum is allowed to pass; and the barrel should be inclined a little on its stand, to allow the whole to run off.

The Doctor contradicts the opinion that very fine butter cannot be obtained, except from cream that is not above a day old. On the contrary, he insists that it is only in very few cases that even tolerably good butter can be obtained from cream that is not above one day old. The separation of butter from cream only takes place after the cream has attained a certain degree of acidity. If it be agitated before that acidity has begun to take place, no butter can be obtained, and the agitation must be continued till the time that the sourness is produced; after which the butter begins to form. "In summer, while the climature is warm, the heating may be, without very much difficulty, continued until the acidity be produced,

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duced, so that butter may be got: but in this case the process is long and tedious; and the butter is for the most part of a soft consistence, and tough and gluey to the touch. If this process be attempted during the cold weather in winter, butter can scarcely be in any way obtained, unless by the application of some great degree of heat, which sometimes assists in producing a very inferior kind of butter, white, hard, and brittle, and almost unfit for any culinary purpose whatever. The judicious farmer, therefore, will not attempt to imitate this practice, but will allow his cream to remain in the vessel appropriated for keeping it, until it has acquired the proper degree of acidity. There is no rule for determining how long it is to be kept; but our author is of opinion that a very great latitude is allowable in this case; and that if no serious matter be allowed to lodge among the cream, it may be kept good for making butter a great many weeks.

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churn.

The churn in which butter is made likewise admits of considerable diversity; but our author prefers the old-fashioned upright churn to all others, on account of its being more easily cleaned. The labour, when the cream is properly prepared, he thinks, very trifling. Much greater nicety, he says, is required in the process of churning than most people are aware of; as a few hasty and irregular strokes will render butter bad, which otherwise would have been of the finest quality. After the process is over, the whole ought to be separated from the milk, and put into a clean dish; the inside of which, if made of wood, ought to be well rubbed with common salt, to prevent the butter from adhering to it. The butter should be pressed and worked with a flat wooden laddle or skimming dish, having a short handle, so as to force out all the milk that was lodged in the cavities of the mass. This operation requires a considerable degree of strength as well as dexterity; but our author condemns the beating up of the butter with the hand as "an indelicate and barbarous practice." In like manner he condemns the employing of cold water in this operation, to *wash* the butter as it is called. Thus, he says, the quality of it is debased in an astonishing degree. If it is too soft, it may be put into small vessels, and these allowed to swim in a tub of cold water; but the water ought never to touch the butter. The beating should be continued till the milk be thoroughly separated, but not till the butter become tough and gluey; and after this is completely done, it is next to be salted. The vessel into which it is to be put must be well seasoned with boiling water several times poured into it; the inside is to be rubbed over with common salt, and a little melted butter poured into the cavity between the bottom and sides, so as to make it even with the bottom; and it is then fit for receiving the butter. Instead of common salt alone, the Doctor recommends the following composition. "Take of sugar one part, of nitre one part, and of the best Spanish great salt two parts. Beat the whole into a fine powder, mix them well together, and put them by for use. One ounce of this is to be thoroughly mixed with a pound of butter as soon as it is freed from the milk, and then immediately put into the vessel designed to hold it; after which it must be pressed so close as to leave no air-holes; the surface is to be smoothed and

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Butter
ought not
to be put
into water.

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Composition
for
preserving
butter.

covered with a piece of linen, and over that a piece of wet parchment; or in defect of this last, fine linen that has been dipped in melted butter, exactly fitted to the edges of the vessel all round, in order to exclude the air as much as possible. When quite full, the cask is to be covered in like manner, and a little melted butter put round the edges, in order to fill up effectually every cranny, and totally to exclude the air. "If all this (says the Doctor) be carefully done, the butter may be kept perfectly sound in this climate for many years. How many years I cannot tell; but I have seen it two years old, and in every respect as sweet and sound as when only a month old. It deserves to be remarked, that butter cured in this manner does not taste well till it has stood at least a fortnight after being salted; but after that period is elapsed, it eats with a rich marrowy taste that no other butter ever acquires; and it tastes so little salt, that a person who had been accustomed to eat butter cured with common salt only, would not imagine it had got one-fourth part of the salt necessary to preserve it." Our author is of opinion, that strong brine may be useful to pour upon the surface during the time it is using, in order the more effectually to preserve it from the air, and to avoid rancidity.

As butter contains a quantity of mucilaginous matter much more putrescible than the pure oily part, our author recommends the purifying it from this mucilage, by melting in a conical vessel, in which the mucilage will fall to the bottom; the pure oily part swimming at top. This will be useful when butter is to be sent a long voyage to warm climates, as the pure part will keep much better than when mixed with the other. He proposes another method of preserving butter, *viz.* by mixing it with honey, which is very antiseptic, and mixes intimately with the butter. Thus mixed, it eats very pleasantly, and may perhaps be successfully used with a medicinal intention.

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To prepare
butter for
sending to
warm climates.

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Preserved
by honey.

The other grand object of the dairy is cheese-making, which in some counties of England becomes a very considerable article. In this the same precaution is to be observed as with regard to butter; *viz.* the milk ought not to be agitated by carrying to any distance; nor ought the cows to be violently driven before they are milked, which reduces the milk almost to the same state as if agitated in a barrel or churn. To this cause Mr Twamley, who has written a treatise upon dairy management, attributes the great difficulty sometimes met with in making the milk coagulate; four or five hours being sometimes necessary instead of one (the usual time employed); and even after all, the curd will be of such a soft nature, that the cheese will swell, puff up, and rent in innumerable places without ever coming to that solid consistence which it ought to have. As this frequently happens in consequence of heat, Mr Twamley advises to mix a little cold spring-water with the milk. It is a bad practice to put in more rennet when the curd appears difficult to be formed; for this, after having once formed the curd by the use of a certain quantity, will dissolve it again by the addition of more.

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Making of
cheese.

The most common defects of cheese are its appearing when cut full of small holes called *eyes*; its puffing up, cracking, and pouring out quantities of thin serous liquor;

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General defects of
cheese.

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liquor; becoming afterwards rotten and full of maggots in those places from which the liquor issued. All this, according to our author, proceeds from the formation of a substance called by him *slip-curd*, a kind of half coagulum, incapable of a thorough union with the true curd, and which when broken into very small bits produces eyes; but if in larger pieces, occasions those rents and cracks in the cheese already mentioned; for though this kind of curd retains its coagulated nature for some time, it always sooner or later dissolves into a ferous liquid. This kind of curd may be produced,

1. By using the milk too hot. 2. By bad runnet. 3. By not allowing the curd a proper time to form. The first of these is remedied by the use of cold water, which our author says is so far from being detrimental to the quality of the cheese, that it really promotes the action of the runnet upon the milk. The second, viz. a knowledge of good from bad runnet, can only be acquired by long practice, and no particular directions can be given, farther than that the utmost care must be taken that it have no putrid tendency, nor any rancidity from too great heat in drying. The only rule that can be given for its preparation is to take out the maw of a calf which has fed entirely upon milk; after it is cold, swell it a little in water; rub it well with salt; then fill it with the same, and afterwards cover it. Some cut them open and spread them in salt, putting them in layers above one another, letting them continue in the brine they produce, sometimes stirring or turning them for four, six, or nine months; after which they are opened to dry, stretched out upon sticks or splints. They may be used immediately after being dried, though it is reckoned best to keep them till they be a year old before they are used. The best method of making the runnet from the skins, according to our author, is the following: "Take pure spring-water, in quantity proportioned to the runnet you intend to make; it is thought best by some two skins to a gallon of water; boil the water, which makes it softer or more pure; make it with salt into brine that will swim an egg; then let it stand till the heat is gone off to about the heat of blood-warm; then put your maw-skin in, either cut in pieces or whole; the former I should imagine best or most convenient; letting it steep 24 hours, after which it will be fit for use. Such quantity as is judged necessary must then be put into the milk; about a tea-cupful being necessary for ten cows milk; though in this respect very particular directions cannot be given."

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Mr Hazard's re-
ceipt for
runnet.

In the Bath Papers, Mr Hazard gives the following receipt for making runnet. "When the maw-skin is well prepared and fit for the purpose, three pints or two quarts of soft water, clean and sweet, should be mixed with salt, wherein should be put sweet brier, rose-leaves and flowers, cinamon mace, cloves, mace, and in short almost every sort of spice and aromatic that can be procured; and if these are put into two quarts of water, they must boil gently till the liquor is reduced to three pints, and care should be taken that this liquid is not smoked; it should be strained clear from the spices, &c. and when found not to be warmer than milk from the cow, it should be poured upon the vell or maw; a lemon may then be sliced into it,

when it may remain a day or two; after which it should be strained again and put into a bottle, where if well corked it will keep good for twelve months or more; it will smell like a perfume, and a small quantity of it will turn the milk and give the cheese a pleasing flavour." He adds, that if the vell or maw be salted and dried for a week or two near the fire, it will do for the purpose again almost as well as before.

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ment of the
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Particulars
to be ob-
served in
making of
cheese.

In the making of cheese, supposing the runnet to be of a good quality, the following particulars must be observed: 1. The proper degree of heat. This ought to be what is called *milk-warm*, or "a few degrees removed from coolness," according to Mr Twamley; considerably below the heat of milk taken from the cow. If too hot, it may be reduced to a proper temperature by cold water, as already mentioned. 2. The time allowed for the runnet to take effect. This, our author observes, ought never to be less than an hour and a half. The process may be accelerated, particularly by putting salt to the milk before the runnet is added. Mr Twamley advises two handfuls to ten or twelve cows milk; but he assures us, that no bad consequence can follow from the curd being formed ever so soon; as it then only becomes more solid and fit for making cheese of a proper quality. 3. To prevent any difficulty in separating the curd from the whey, prepare a long cheese knife from lath; one edge being sharpened to cut the curd across from top to bottom in the tub, crossing it with lines checkerwise; by which means the whey rises through the vacancies made by the knife, and the curd sinks with much more ease. A sieve has also been used with success, in order to separate the whey perfectly from the curd. 4. Having got the curd all firm at the bottom of the tub, take the whey from it; let it stand a quarter of an hour to drain before you put it into the vat to break it. If any bits of slip-curd swim among the whey, pour it all off together rather than put it among the cheese, for the reasons already given. Some dairy-women allow the curd to stand for two hours; by which time it is become of so firm a nature, that no breaking is necessary: they have only to cut it in slices, put it into the vat, and work it well by squeezing thoroughly to make it fit close; then put it into the press. Our author, however, approves more of the method of breaking the curd, as less apt to make the cheese hard and horny. 5. When the whey is of a white colour, it is a certain sign that the curd has not subsided; but if the method just now laid down be followed, the whey will always be of a green colour; indeed this colour of the whey is always a certain criterion of the curd having been properly managed. 6. The best method of preventing cheese from heaving, is to avoid making the runnet too strong, to take care that it be clean, and not tainted; to be certain that the curd is fully come, and not to stir it before the air has had time to escape; a quantity of air being always discharged in this as in many other chemical processes. 7. Cheese is very apt to split in consequence of being "salted within," especially when the vat is about half filled. In this case the curd, though separated only in a small degree by the salt, never closes or joins as it ought to do. Mr Twamley prefers salting in the milk greatly to this method. 8. Dry cracks in cheese are before

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generally produced by keeping curd from one meal to another, and letting the first become too stiff and hard before it is mixed with the other. 9. Curdly or wrinkle-coated cheese is caused by sour milk. Cheese made of cold milk is apt to be hard, or to break and fly before the knife. 10. Such coated cheese is caused by being made too cold, as cheese that is made in winter or late in autumn is apt to be, unless laid in a warm room after it is made.

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Different kinds of cheese.

Cheese is of very different quality, according to the milk from which it is made: Thus, in Gloucestershire, what is called the *second* or *two-meal* cheese, is made from one meal of new milk and one of skimmed or old milk, having the cream taken away. Skimmed cheese, or *flet-milk* cheese, is made entirely from skimmed milk, the cream having been taken off to make butter. It goes by the name of *Suffolk cheese*, and is much used at sea; being less liable to be affected by the heat of warm climates than the other kinds. A great deal of difference, however, is to be observed in the quality of it, which our author supposes to arise chiefly from greater care being taken in some places than in others.

Slip coat or soft cheese is made entirely of slip-curd, and dissolves into a kind of creamy liquor; which is a demonstration of the nature of this curd as already mentioned. It is commonly computed, that as much milk is required to make one pound of butter as two of cheese; and even more where the land is poor, and the pastures afford but little cream.—For further particulars with regard to these two commodities, see the articles BUTTER and CHEESE.

SECT. X. Making of Fruit-Liquors.

THESE, as objects of British husbandry, are principally two, *Cyder* and *Perry*; the manufacturing of which forms a capital branch in our fruit-counties, and of which the improvement must be considered as of great importance to the public, but particularly so to the inhabitants of those districts where these liquors constitute their common beverage.

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Excellence of cyder and perry.

Cyder and perry, when genuine and in high perfection, are excellent vinous liquors, and are certainly far more wholesome than many others which at present are in much higher estimation. When the must is prepared from the choicest fruit, and undergoes the exact degree of vinous fermentation requisite to its perfection, the acid and the sweet are so admirably blended with the aqueous, oily, and spiritous principles, and the whole so imbued with the grateful flavour of the rinds, and the agreeable aromatic bitter of the kernels, that it assumes a new character; grows lively, sparkling, and exhilarating; and when completely mellowed by time, the liquor becomes at once highly delicious to the palate, and congenial to the constitution; superior in every respect to most other English wines, and perhaps not inferior to many of the best foreign wines. Such (says Dr Fothergill†) would it be pronounced by all competent judges, were it not for the popular prejudice annexed to it as a cheap home-brewed liquor, and consequently within the reach of the vulgar. To compare such a liquor with the foreign fiery sophisticated mixtures often imported under the name of wines, would be to degrade it; for

† Bath Papers, vol. v. p. 343.

it certainly surpasses them in flavour and pleasantness, as much as it excels them in wholesomeness and cheapness. But rarely do we meet with perry or cyder of this superior quality. For what is generally sold by dealers and inn-keepers is a poor, meagre, vapid liquor, prone to the acetous fermentation, and of course very injurious to the constitution. Is it not very mortifying, after the experience of so many centuries, that the art of preparing those ancient British liquors should still be so imperfectly understood as yet to seem to be in its very infancy?—That throughout the principal cyder districts, the practice should still rest on the most vague indeterminate principles, and that the excellence of the liquor should depend rather on a lucky random hit, than on good management! Yet such appears to be really the case even among the most experienced cyder-makers of Herefordshire and Gloucestershire.

Mr Marshall, that nice observer of rural affairs, in his late tour* through those counties (expressly undertaken for the purpose of inquiry on this subject), informs us, that scarcely two of these professional artists are agreed as to the management of some of the most essential parts of the process. That palpable errors are committed as to the time and manner of gathering the fruit—in laying it up—in neglecting to separate the unsound—and to grind properly the rinds and kernels, &c. That the method of conducting the vinous fermentation, the most critical part of the operation, and which stamps the future value of the liquor, is by no means ascertained: While some promote the fermentation in a spacious open vat, others repress it by inclosing the liquor in a hoghead, or strive to prevent it altogether. That no determinate point of temperature is regarded, and that the use of the thermometer is unknown or neglected. That they are as little consistent as to the time of racking off; and whether this ought to be done only once, or five or six times repeated. That for fining down the liquor, many have recourse to that odious article, bullock's blood, when the intention might be much better answered by whites of eggs or isinglass. And, finally, that the capricious taste of particular customers is generally consulted, rather than the real excellence of the liquor; and consequently that a very imperfect liquor is often vended, which tends to reduce the price, to disgrace the vender, and to bring the use of cyder and perry into disrepute.

The art of making vinous liquors is a curious chemical process; and its success chiefly depends on a dexterous management of the vinous fermentation, besides a close attention to sundry minute circumstances, the theory of which is perhaps not yet fully understood by the ablest chemists. Can we longer wonder then that so many errors should be committed by illiterate cyder-makers, totally unversed in the first principles of the chemical art? Some few, indeed, more enlightened than their brethren, and less bigotted to their own opinions, by dint of observation strike out improvements, and produce every now and then a liquor of superior quality, though perhaps far short of excellence, yet still sufficient to show what might possibly be accomplished by a series of new experiments conducted on philosophical principles. This might lead

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improve-
ment.

† Hopson's
Chemistry.

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Description
of a cyder-
mill and
mill-house

to successive improvements, till at length our English fruit-liquors might be carried to a pitch of perfection hitherto unknown, by which the demand, both at home and abroad, would soon be enlarged, the prices augmented according to the quality, the value of estates increased, and the health and prosperity of these counties proportionably advanced. This might also help to point out a method of correcting the imperfections of these liquors; and of meliorating those of a weak meagre quality, by safer and more effectual means than are now practised: and though nothing can fully compensate the defect of sunshine in maturing the saccharine juices in unfavourable seasons, yet probably such liquor might, without the dangerous and expensive method of boiling in a copper vessel, admit of considerable improvement by the addition of barm or other suitable ferment, as yet unknown in the practice of the cyder districts; or perhaps rather by a portion of rich must, or some wholesome sweet, as honey, sugar-candy, or even mellasses, added in due proportion, previous to the fermentation. In fact, it appears from a late publication†, that the Germans are known to meliorate their thin harsh wines by an addition of concentrated must, not by evaporation, but by freezing. By this simple process they are made to emulate good French wines; a practice worthy of imitation, especially in the northern climates.

Cyder, as is well known, is made from apples, and *Perry* from pears only. The general method of preparing both these liquors is very much the same; and under the article *CYDER* a description is given of the way in which those fruits are gathered, ground, and pressed. The mill is not essentially different from that of a common tanner's mill for grinding bark. It consists of a mill-stone from two and an half to four feet and an half in diameter, running on its edge in a circular stone trough, from nine to twelve inches in thickness, and from one to two tuns in weight. The bottom of the trough in which this stone runs is somewhat wider than the thickness of the stone itself; the inner side of the groove rises perpendicularly, but the outer spreads in such a manner as to make the top of the trough six or eight inches wider than the bottom; by which means there is room for the stone to run freely, and likewise for putting in the fruit, and stirring it up while grinding. The bed of a middle-sized mill is about 9 feet, some 10, and some 12; the whole being composed of two, three, or four stones cramped together, and finished after being cramped in this manner. The best stones are found in the forest of Dean; generally a dark, reddish gritstone, not calcareous; for if it were of a calcareous quality, the acid juice of the fruits would act upon it and spoil the liquor: a clean-grained grindstone grit is the fittest for the purpose. The runner is moved by means of an axle passing through the centre, with a long arm reaching without the bed of the mill, for a horse to draw by; on the other side is a shorter arm passing through the centre of the stone, as represented in the figure. An iron bolt, with a large head, passes through an eye, in the lower part of the swivel on which the stone turns, into the end of the inner arm of the axis; and thus the double motion of it is ob-

tained, and the stone kept perfectly upright. There ought also to be fixed on the inner arm of the axis, about a foot from the runner, a cogged wheel working in a circle of cogs, fixed upon the bed of the mill. The use of these is to prevent the runner from sliding, which it is apt to do when the mill is full; it likewise makes the work more easy for the horse. These wheels ought to be made with great exactness. Mr Marshall observes, that it is an error to make the horse draw by traces: "The acting point of draught (says he), the horse's shoulder, ought, for various reasons, to be applied immediately at the end of the arm of the axis; not two or three yards before it; perhaps of a small mill, near one fourth of its circumference." The building in which the mill is inclosed ought to be of such a size, that the horse may have a path of three feet wide betwixt the mill and the walls; so that a middling-sized mill, with its horse-path, takes up a space of 14 or 15 feet every way. The whole dimensions of the mill-house, according to our author, to render it any way convenient, are 24 feet by 20: it ought to have a floor thrown over it at the height of seven feet; with a door in the middle of the front, and a window opposite, with the mill on one side and the press on the other side of the window. The latter must be as near the mill as convenience will allow, for the more easy conveying the ground fruit from the one to the other. The press, of which the principle will be understood from the figure, has its bed or bottom about five feet square. This ought to be made entirely either of wood or stone; the practice of covering it with lead being now universally known to be pernicious. It has a channel cut a few inches within its outer edges, to catch the liquor as it is expressed, and convey it to a lip formed by a projection on that side of the bed opposite to the mill; having under it a stone trough or wooden vessel, sunk within the ground, when the bed is fixed low, to receive it. The press is worked with levers of different lengths; first a short, and then a moderately long one, both worked by hand; and lastly, a bar eight or nine feet long worked by a capstane or windlass. The expence of fitting up a mill-house is not very great. Mr Marshall computes it from 20l. to 25l. and, on a small scale, from 10l. to 15l. though much depends on the distance and carriage of the stone: when once fitted up, it will last many years.

The making of the fruit-liquors under consideration requires an attention to the following particulars. I. The fruit. II. The grinding. III. Pressing. IV. Fermenting. V. Correcting. VI. Laying up. VII. Bottling; each of which heads is subdivided into several others.

I. In the *management of the fruit*, the following particulars are to be considered.

1. The time of gathering; which varies according to the nature of the fruit. The early pears are fit for the mill in September; but few apples are ready for gathering before Michaelmas; though, by reason of accidental circumstances, they are frequently manufactured before that time. For sale cyder, and keeping drink, they are suffered to hang upon the trees till fully ripe; and the middle of Octo-

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Manage-
ment of the
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ber is generally looked upon to be a proper time for gathering the fire-apple. The criterion of a due degree of ripeness is the fruit falling from the tree; and to force it away before that time, in Mr Marshall's opinion, is robbing it of some of its most valuable particles. "The harvesting of fruit (says he) is widely different in this respect from the harvesting of grain; which has the entire plant to feed it after its separation from the soil; while fruit, after it is severed from the tree, is cut off from all possibility of a further supply of nourishment; and although it may have reached its wonted size, some of its more essential particles are undoubtedly left behind in the tree." Sometimes, however, the fruits which are late in ripening are apt to hang on the tree until spoiled by frosts; though weak watery fruits seem to be most injured in this manner; and Mr Marshall relates an instance of very fine liquor being made from golden pippins, after the fruit had been frozen as hard as ice.

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Method of
gathering
it.

2. The method of gathering. This, as generally practised, is directly contrary to the principle laid down by Mr Marshall, viz. beating them down with long slender poles. An evident disadvantage of this method is, that the fruit is of unequal ripeness; for the apples on the same trees will differ many days, perhaps even weeks, in their time of coming to perfection; whence some part of the richness and flavour of the fruit will be effectually and irremediably cut off. Nor is this the only evil to be dreaded; for as every thing depends on the fermentation it has to undergo, if this be interrupted, or rendered complex by a mixture of ripe and unripe fruits, and the liquor be not in the first instance sufficiently purged from its feculencies, it is difficult to clear the liquor afterwards. The former defect the cyder makers attempt to remedy by a mixture of brown sugar and brandy, and the latter by bullock's blood and brimstone; but neither of these can be expected to answer the purpose very effectually. The best method of avoiding the inconveniences arising from an unequal ripening of the fruit is to go over the trees twice, once with a hook, when the fruit begins to fall spontaneously; the second time, when the latter are sufficiently ripened, or when the winter is likely to set in, when the trees are to be cleared with the poles above-mentioned.

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Maturing
it, &c.

3. Maturing the gathered fruit. This is usually done by making it into heaps, as is mentioned under the article CYDER: but Mr Marshall entirely disapproves of the practice; because, when the whole are laid in a heap together, the ripest fruit will begin to rot before the other has arrived at that degree of artificial ripeness which it is capable of acquiring. "The due degree of maturation of fruit for liquor (he observes) is a subject about which men, even in this district, differ much in their ideas. The prevailing practice of gathering into heaps until the ripest begin to rot, is wasting the best of the fruit, and is by no means an accurate criterion. Some shake the fruit, and judge by the rattling of the kernels; others cut through the middle, and judge by their blackness; but none of these appear to be a proper test. It is not the state of the kernels but of the flesh; not of a few individuals, but of the greater part of the prime-fruit, which renders the collective body fit or unfit to be sent to the mill. The most rational test of the ripeness of the fruit, is that of the flesh

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having acquired such a degree of mellowness, and its texture such a degree of tenderness, as to yield to moderate pressure. Thus, when the knuckle or the end of the thumb can with moderate exertion be forced into the pulp of the fruit, it is deemed in a fit state for grinding."

4. Preparation for the mill. The proper management of the fruit is to keep the ripe and unripe fruit separate from each other: but this cannot be done without a considerable degree of labour; for as by numberless accidents the ripe and unripe fruits are frequently confounded together, there cannot be any effectual method of separating them except by hand; and Mr Marshall is of opinion, that this is one of the grand secrets of cyder-making, peculiar to those who excel in the business; and he is surprised that it should not before this time have come into common practice.

5. Mixing fruits for liquor. Our author seems to doubt the propriety of this practice; and informs us, that the finer liquors are made from select fruits; and he hints that it might be more proper to mix liquors after they are made, than to put together the crude fruits.

II. *Grinding*, and management of the fruit when Grinding.

1. For the greater convenience of putting the fruit into the mill, every mill-house should have a fruit-chamber over it, with a trap-door to lower the fruit down into the mill. The best manner in which this can be accomplished, is to have the valve over the bed of the mill, and furnished with a cloth spout or tunnel reaching down to the trough in which the stone moves. No straw is used in the lofts, but sometimes the fruit is turned. In Herefordshire, it is generally believed, that grinding the rind and seeds of the fruit as well as the fleshy part to a pulp, is necessary towards the perfection of the cyder; whence it is necessary, that every kind of pains should be taken to perform the grinding in the most perfect manner. Mr Marshall complains, that the cyder-mills are so imperfectly finished by the workmen, that for the first *fifty years* they cannot perform their work in a proper manner. Instead of being nicely fitted to one another with the square and chisel, they are hewn over with a rough tool in such a careless manner, that horse-beans might lie in safety in their cavities. Some even imagine this to be an advantage, as if the fruit was more effectually and completely broken by rough than smooth stones. Some use fluted rollers of iron; but these will be corroded by the juice, and thus the liquor might be tinged. Smooth rollers will not lay hold of the fruit sufficiently to force it through.

Another improvement requisite in the cyder-mills is to prevent the matter in the trough from rising before the stone in the last stage of grinding, and a method of stirring it up in the trough more effectually than can be done at present. To remedy the former of these defects, it might perhaps be proper to grind the fruit first in the mill to a certain degree; and then put it between two smooth rollers to finish the operation in the most perfect manner. It is an error to grind too much at once; as this clogs up the mill, and prevents it from going easily. The usual quantity for a middle-sized mill is a bag containing four corn bushels: but our author had once an opportunity of seeing a mill

in

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in which only half a bag was put; and thus the work seemed to go on more easily as well as more quickly than when more was put in at once. The quantity put in at one time is to be taken out when ground. The usual quantity of fruit ground in a day is as much as will make three hogheads of perry or two of cyder.

2. Management of the ground-fruit. Here Mr Marshall condemns in very strong terms the practice of pressing the pulp of the fruit as soon as the grinding is finished; because thus neither the rind nor seeds have time to communicate their virtues to the liquor. In order to extract these virtues in the most proper manner, some allow the ground-fruit to lie 24 hours or more after grinding, and even regrind it, in order to have in the most perfect manner the flavour and virtues of the seeds and rind.

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Pressing,
&c.

III. *Pressing the fruit*, and management of the *residuum*. This is done by folding up the ground-fruit in pieces of hair-cloth, and piling them up above one another in a square frame or mould, and then pulling down the press upon them, which squeezes out the juice, and forms the matter into thin and almost dry cakes. The first runnings come off foul and muddy; but the last, especially in perry, will be as clear and fine as if filtered thro' paper. It is common to throw away the residuum as useless; sometimes it is made use of when dry as fuel; sometimes the pigs will eat it, especially when not thoroughly squeezed; and sometimes it is ground a second time with water, and squeezed for an inferior kind of liquor used for the family. Mr Marshall advises to continue the pressure as long as a drop can be drawn. "It is found (says he), that even by breaking the cakes of refuse with the hands only gives the press fresh power over it; for though it has been pressed to the last drop, a gallon or more of additional liquor may be got by this means. Re-grinding them has a still greater effect: In this state of the materials the mill gains a degree of power over the more rigid parts of the fruit, which in the first grinding it could not reach. If the face of the runner and the bottom of the trough were dressed with a broad chissel, and made true to each other, and a moderate quantity of residuum ground at once, scarcely a kernel could escape unbroken, or a drop of liquor remain undrawn."

But though the whole virtue of the fruit cannot be extracted without grinding it very fine, some inconvenience attends this practice, as part of the pulp thus gets through the hair cloth, and may perhaps be injurious to the subsequent fermentation. This, however, may be in a great measure remedied by straining the first runnings through a sieve. The whole should also be allowed to settle in a cask, and drawn off into a fresh vessel previous to the commencement of the fermentation. The reduced fruit ought to remain some time between the grinding and pressing, that the liquor may have an opportunity of forming an extract with the rind and kernels: but this must not be pushed too far, as in that case the colour of the cyder would be hurt; and the most judicious managers object to the pulp remaining longer than 12 hours without pressure. "Hence (says our author), upon the whole, the most eligible management in this stage of the art appears to be this: Grind one pressful a-day; press

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and regrind the residuum in the evening; infuse the reduced matter all night among part of the first runnings; and in the morning re-press while the next pressful is grinding.

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Fermentation.

IV. *Fermentation*. The common practice is to have the liquor turned; that is, put into casks or hogheads immediately from the press, and to fill them quite full: but it is undoubtedly more proper to leave some space empty to be filled up afterwards. No accurate experiment has been made with regard to the temperature of the air proper to be kept up in the place where the fermentation goes on. Frost is prejudicial: but when the process usually commences, that is about the middle of October, the liquor is put into airy shades, where the warmth is scarce greater than in the open atmosphere; nay, they are frequently exposed to the open air without any covering farther than a piece of tile or flat stone over the bung-hole, propped up by a wooden pin on one side to cause the rain-water run off. In a complete manufactory of fruit-liquor, the fermenting room should be under the same roof with the mill-house; a continuation of the press-room, or at least opening into it, with windows or doors on every side, to give a free admission of air into it; sufficient defences against frost; fruit-lofts over it, and vaults underneath for laying up the liquors after fermentation; with small holes in the crown of the arch to admit a leathern pipe, for the purpose of conveying the liquors occasionally from the one to the other.

In making of fruit-liquors, no ferment is used as in making of beer; though, from Mr Marshall's account of the matter, it seems far from being unnecessary. Owing to this omission, the time of the commencement of the fermentation is entirely uncertain. It takes place sometimes in one, two, or three days; sometimes not till a week or month after turning: but it has been observed, that liquor which has been agitated in a carriage, though taken immediately from the press, will sometimes pass almost immediately into a state of fermentation. The continuance of the fermentation is no less uncertain than the commencement of it. Liquors, when much agitated, will go through it perhaps in one day; but when allowed to remain at rest, the fermentation commonly goes on two or three days, and sometimes five or six. The fermenting liquor, however, puts on a different appearance according to circumstances. When produced from fruits properly matured, it generally throws up a thick scum resembling that of malt liquor, and of a thickness proportioned to the species and ripeness of the fruit; the riper the fruit, the more scum being thrown up. Perry gives but little scum, and cyder will sometimes also do the same; sometimes it is intentionally prevented from doing it.

After having remained some time in the fermenting vessel, the liquor is racked or drawn off from the lees and put into fresh casks. In this part of the operation also Mr Marshall complains greatly of the little attention that is paid to the liquor. The ordinary time for racking perry is before it has done hissing, or sometimes when it begins to emit fixed air in plenty. The only intention of the operation is to free the liquor from its feces by a cock placed at a little distance from the bottom; after which the remainder is to be

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filtered

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filtered through a canvas or flannel bag. This filtered liquor differs from the rest in having an higher colour; having no longer any tendency to ferment, but on the contrary checking the fermentation of that which is racked off; and if it loses its brightness, it is no longer easily recovered.—A fresh fermentation usually commences after racking; and if it become violent, a fresh racking is necessary in order to check it; in consequence of which the same liquor will perhaps be racked five or six times: but if only a small degree of fermentation takes place, which is called *fretting*, it is allowed to remain in the same cask; though even here the degree of fermentation which requires racking is by no means determined. Mr Marshall informs us that the best manufacturers, however, repeat the rackings until the liquor will lie quiet, or nearly so; and if it be found impracticable to accomplish this by the ordinary method of fermentation, recourse must be had to fumigation with sulphur, which is called *stumping* the casks. For this fumigation, it is necessary to have matches made of thick linen-cloth about ten inches long, and an inch broad, thickly coated with brimstone for about eight inches of their length. The cask is then properly seasoned, and every vent except the bung-hole tightly stopped; a match kindled; lowered down into the cask, and held by the end undipped until it be well lighted and the bung be driven in; thus suspending the lighted match within the cask. Having burnt as long as the contained air will supply the fire, the match dies, the bung is raised, the remnant of the match drawn out, and the cask suffered to remain before the liquor be put into it for two or three hours, more or less according to the degree of power the sulphur ought to have. The liquor retains a smell of the sulphureous acid; but this goes off in a short time, and no bad effect is ever observed to follow.

In some places the liquor is left to ferment in open casks, where it stands till the first fermentation be pretty well over; after which the froth or yeast collected upon the surface is taken off, it being supposed that it is this yeast mixing with the clear liquor which causes it to fret after racking. The fermentation being totally ceased, and the lees subsided, the liquor is racked off into a fresh cask, and the lees filtered as above directed. Our author mentions a way of fermenting fruit-liquors in broad shallow vats, not less than five feet in diameter, and little more than two feet deep; each vat containing about two hogsheds. In these the liquor remains until it has done rising, or till the fermentation has nearly ceased, when it is racked off without skimming, the critical juncture being caught before the yeast fall; the whole sinking gradually together as the liquor is drawn off. In this practice also the liquor is seldom drawn off a second time.

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Different
kinds of
cyder, dif-
ferently
fermented.

Cyder is made of three different kinds, viz. *rough*, *sweet*, and *of a middle richness*. The first kind being usually destined for servants, is made with very little ceremony. "If it is but *zeyder* (says Mr Marshall), and has body enough to keep, no matter for the richness and flavour. The rougher it is, the further it will go, and the more acceptable custom has rendered it not only to the workmen but to their masters. A palate accustomed to sweet cyder would judge the rough cyder of the farm-houses to be a mixture of vinegar and water, with a little dissolved alum to give it rough-

ness." The method of producing this austere liquor is to grind them in a crude under-ripe state, and subject the liquor to a full fermentation.—For the sweet liquor, make choice of the sweeter fruits: mature them fully; and check the fermentation of the liquor.—To produce liquors of a middle richness, the nature of the fruit, as well as the season in which it is matured, must be considered. The fruits to be made choice of are such as yield juices capable of affording a sufficiency both of richness and strength; though much depends upon proper management. Open vats, in our author's opinion, are preferable to close vessels: but if casks be used at all, they ought to be very large, and not filled; nor ought they to lie upon their sides, but to be set on their ends with their heads out, and to be filled only to such an height as will produce the requisite degree of fermentation: but in whatever way the liquor be put to ferment, Mr Marshall is of opinion that the operation ought to be allowed to go on freely for the first time; though after being racked off, any second fermentation ought to be prevented as much as possible.

V. *Correcting*, provincially called *doctoring*. The Of correct-
imperfections which art attempts to supply in these li- ing or doc-
quors are, 1. Want of strength; 2. Want of richness, toring the
3. Want of flavour. 4. Want of colour and bright- liquors.

The want of strength is supplied by brandy or any other spirit in sufficient quantity to prevent the acetous fermentation. The want of richness is supplied by what are generally termed *sweets*, but prepared in a manner which our author says has never fallen under his notice. To supply the want of flavour, an infusion of hops is sometimes added, which is said to communicate an agreeable bitter, and at the same time a fragrance; whence it becomes a substitute for the juices of the rind and kernels thrown away to the pigs and poultry, or other otherwise wasted. The want of colour is sometimes supplied by elder berries, but more generally by burnt sugar, which gives the desired colour, and a degree of bitter which is very much liked. The sugar is prepared either by burning it on a salamander, and suffering it to drop, as it melts, into water; or by boiling it over the fire (in which case brown sugar is to be used), until it acquire an agreeable bitter; then pouring in boiling water in the proportion of a gallon to two lb. of sugar, and stir until the liquor become uniform. A pint of this preparation will colour a hoghead of cyder. Brightness is obtained by a mixture of the blood of bullocks or sheep; that of swine being rejected, though it does not appear to be more unfit for the purpose than either of the other two. The only thing necessary to be done here is to stir the blood well as it is drawn from the animal, to prevent the parts from separating; and it ought to be stirred "both ways, for a quarter of an hour." The liquor, however, is not always in a proper condition for being refined with this ingredient; on which account a little of it ought frequently to be tried in a vial. A quart or less will be sufficient for a hoghead. After the blood is poured in, the liquor should be violently agitated, to mix the whole intimately together. This is done by a stick slit into four, and inserted into the bung-hole; working it briskly about in the liquor until the whole be thoroughly mixed. In about 24 hours the

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quors.

the blood will be subfided, and the liquor ought instantly to be racked off; as by remaining upon the blood even for two or three days, it will receive a taint not easily to be got rid of. It is remarkable that this refinement with the blood carries down not only the faeces, but the colour also; rendering the liquor, though ever so highly coloured before, almost as limpid as water. Ifinglass and eggs are sometimes made use of in fining cyder as well as wine.

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Of laying
up, or cask-
ing.

VI. The *laying up* or shutting up the cyder in close casks, according to Mr Marshall, is as little understood as any of the rest of the parts; the bungs being commonly put in at some certain time, or in some particular month, without any regard to the state the liquor itself is in. "The only criterion (says he) I have met with for judging the critical time of laying up, is when a fine white cream-like matter first begins to form upon the surface. But this may be too late; it is probably a symptom at least of the acetous fermentation, which if it take place in any degree must be injurious. Yet if the casks be bunged tight, some criterion is necessary; otherwise, if the vinous fermentation have not yet finally ceased, or should recommence, the casks will be endangered, and the liquor injured. Hence, in the practice of the most cautious manager whose practice I have had an opportunity of observing, the bungs are first driven in lightly, when the liquor is fine, and the vinous fermentation is judged to be over; and some time afterward, when all danger is past, to fill up the casks, and drive the bungs securely with a rag, and rosin them over at top. Most farmers are of opinion, that after the liquor is done fermenting, it ought to have something to *feed upon*; that is, to prevent it from running into the acetous fermentation. For this purpose some put in parched beans, others egg-shells, some mutton suet, &c. Mr Marshall does not doubt that something may be useful; and thinks that ifinglass may be as proper as any thing that can be got.

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Bottling.

VII. *Bottling*. This depends greatly on the quality of the liquors themselves. Good cyder can seldom be bottled with propriety under a year old; sometimes not till two. The proper time is when it has acquired the utmost degree of richness and flavour in the casks; and this it will preserve for many years in bottles. It ought to be quite fine at the time of bottling; or if not so naturally, ought to be fined artificially with ifinglass and eggs.

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Of cyder-
kin.

THE liquor, called *cyderkin*, *purre*, or *perkin*, is made of the murk or gross matter remaining after the cyder is pressed out. To make this liquor, the murk is put into a large vat, with a proper quantity of boiled water, which has stood till it be cold again: if half the quantity of water be used that there was of cyder, it will be good; if the quantities be equal, the cyderkin will be small. The whole is left to infuse 48 hours, and then well pressed: what is squeezed out by the press is immediately tunned up and stopped; it is fit to drink in a few days. It clarifies of itself, and serves in families instead of small beer. It will keep, if boiled, after pressure, with a convenient quantity of hops.

We must not conclude this section without particular notice of the liquor called *cyder wine*, which is

made from the juice of apples taken from the press and *boiled*, and which being kept three or four years is said to resemble Rhenish. The method of preparing this wine, as communicated by Dr Rush of America, where it is much practised, consists in evaporating in a brewing copper the fresh apple-juice till half of it be consumed. The remainder is then immediately conveyed into a wooden cooler, and afterwards is put into a proper cask, with an addition of yeast, and fermented in the ordinary way. The process is evidently borrowed from what has long been practised on the recent juice of the grape, under the term of *vin cuit*, or boiled wine, not only in Italy, but also in the islands of the Archipelago, from time immemorial.

This process has lately become an object of imitation in the cyder counties, and particularly in the west of England, where it is reported that many hundred hogs-heads of this wine have already been made; and as it is said to betray no sign of an impregnation of copper by the usual chemical tests, it is considered as perfectly wholesome, and is accordingly drunk without apprehension by the common people. Others, however, suspect its innocence; whence it appeared an object of no small moment to determine in so doubtful a matter, whether or not the liquor acquires any noxious quality from the copper in which it is boiled.—With this view Dr Fothergill† made a variety of experiments;† *Bath Pa-* and the result seemed to afford a strong presumption *pers.*, vol. 4. p. 339. that the cyder-wine *does* contain a minute impregnation of copper; not very considerable indeed, but yet sufficient, in the Doctor's opinion, to put the public on their guard concerning a liquor that comes in so very "questionable a shape."

It is a curious chemical fact, he observes, if it be really true, that acid liquors, while kept boiling in copper vessels, acquire little or no impregnation from the metal, but presently begin to act upon it when left to stand in the cold. Can this be owing to the agitation occasioned by boiling, or the expulsion of the aerial acid? Atmospheric air powerfully corrodes copper, probably through the intervention of the aerial or rather nitrous acid, for both are now acknowledged to be present in the atmosphere. But the latter is doubtless a much stronger menstruum of copper than the former.

In the present process the liquor is properly directed to be passed into a wooden cooler as soon as the boiling is completed. But as all acids, and even common water, acquire an impregnation and unpleasant taste, from standing in copper vessels in the cold, why may not the acid juice of apples act in some degree on the copper before the boiling commences? Add to this, that brewing coppers, without far more care and attention than is generally bestowed on them in keeping them clean, are extremely apt to contract verdegriis, (a rank poison), as appears from the blue or green streaks very visible when these vessels are minutely examined. Should the unfermented juice be thought incapable of acting on the copper either in a cold or boiling state, yet no one will venture to deny its power of washing off or dissolving verdegriis already formed on the internal surface of the vessel. Suppose only one-eighth part of a grain of verdegriis to be contained in a bottle of this wine, a quantity that may elude the ordinary tests, and that a bottle should

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wine, ac-
cording to
Dr Rush's
recipe.

Manures. should be drunk daily by a person without producing any violent symptom or internal uneasiness; yet what person in his senses would knowingly chuse to hazard the experiment of determining how long he could continue even this quantity of a slow poison in his daily beverage with impunity? And yet it is to be feared, the experiment is but too often unthinkingly made, not only with cyder-wine, but also with many of the foreign wines prepared by a similar process. For the grape juice, when evaporated in a copper vessel, under the denomination of *vino cotto* or boiled wine, cannot but acquire an equal if not yet stronger impregnation of the metal, than the juice of apples, seeing that verdegriis itself is manufactured merely by the application of the acid husks of grapes to plates of copper.

Independent of the danger of any metallic impregnation, the Doctor thinks it may be justly questioned how far the process of preparing boiled wines is necessary or reconcileable to reason or economy. The evaporation of the must by long boiling not only occasions an unnecessary waste of both liquor and fuel, but also dissipates certain essential principles, without which the liquor can never undergo a complete fermentation, and without a complete fermentation there can be no perfect wine. Hence the boiled wines are generally crude, heavy, and flat, liable to produce indigestion, flatulency, and diarrhoea. If the evaporation be performed hastily, the liquor contracts a burnt empyreumatic taste, as in the present instance; if slowly, the greater is the danger of a metallic impregnation. For the process may be presumed to be generally performed in a vessel of brass or copper, as few families possess any other that is sufficiently capacious. Nor can a vessel of cast-iron, though perfectly safe, be properly recommended for this purpose, as it would probably communicate a chalybeate taste and dark colour to the liquor. At all events, brass and copper vessels ought to be entirely banished from this and every other culinary process.

SECT. XI. On Manures, and the best Methods of collecting them.

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Of gypsum
as a ma-
nure.

WE have deferred treating on these to the last part, as they are in fact derived in more or less quantity from every operation in husbandry, though they are undoubtedly the foundation of the whole; for no method yet proposed for making a soil fertile without manure has ever been properly ascertained to be successful. The mode in which they operate has been so fully explained under the article AGRICULTURE, that nothing farther seems necessary to be added in this place. Of late, however, a new manure has been introduced into some countries, the operation of which cannot so well be explained upon the principles there laid down. This is *Gypsum*. In the eighth volume of the Annals of Agriculture we are informed, that it is commonly used as a manure in Switzerland. In the 10th volume of the same work, Sir Richard Sutton gives some account of an experiment made with it on his estate; but in such an inaccurate manner, that nothing could be determined. "The appearance in general (says he), I think, was rather against the benefit of the plaster, though not decidedly so." He tells us, that its virtues were a sub-

ject of debate in Germany. In America this substance seems to have met with more success than in any other country. In the fifth volume of Bath Papers, Mr Kirkpatrick of the Isle of Wight, who had himself visited North America, informs us, that it is much used in the United States, on account of its cheapness and efficacy; though, from what is told in the same place, we must undoubtedly be led to suppose, that its efficacy must be very great before it can be intitled to *cheapness*. In the first place, it is brought from the hills in the neighbourhood of Paris to Havre de Grace, and from thence exported to America; which of itself must occasion a considerable expence, though the plaster were originally given *gratis*. In the next place, it must be powdered in a stamping mill, and the finer it is powdered so much the better. In the third place, it must be *sown* over the ground to be manured with it. The quantity for grass is six bushels to an acre. It ought to be sown on dry ground in a wet day; and its efficacy is said to last from seven to twelve years. It operates entirely as a top dressing.

In the 10th volume of Annals of Agriculture, we have some extracts from a treatise by Mr Powel, president of the Philadelphia Society for encouraging Agriculture, upon the subject of gypsum as a manure; of the efficacy of which he gives the following instances. 1. In October 1786, plaster of Paris was sown in a rainy day upon wheat-stubble without any previous culture. The crop of wheat had scarce been worth reaping, and no kind of grass seed had been sown upon the ground; nevertheless, in the month of June it was covered with a thick mat of white clover, clean and even, from six to eight inches in height. A piece of ground adjoining to this white clover was also sown with gypsum, and exhibited a fine appearance of white and red clover mixed with spear-grass. Some wet ground sown at the same time was not in the least improved.—This anecdote rests entirely on the veracity of an anonymous farmer. 2. Eight bushels of plaster of Paris spread upon two acres and an half of wheat-stubble ground, which the spring before had been sowed with about two pounds of red clover-seed to the acre for pasture, yielded five tons of hay by the middle of June. A small piece of ground of similar quality, but without any plaster, produced only one ton and an half in the same proportion.—Mr Powel concludes in favour of the effects of the plaster upon arable as well as grass land.—Other accounts to the same purpose have been published; but it does not appear to have been tried in this country.

With regard to the other kinds of manure commonly in use in this country, their efficacy is well known; the only difficulty is to procure them in sufficient quantity. —In such lands as lie near the sea, sea-weeds offer an unlimited quantity of excellent manure. In the neighbourhood of rivers, the weeds with which they abound offer likewise an excellent manure in plenty. Oil cake, malt-coombs, the refuse of slaughter-houses, &c. all are excellent where they can be got: but the situations which afford these are comparatively few; so that in most cases the farmer must depend much on his own ingenuity and industry for raising a sufficient quantity of dung to answer his purposes; and the methods taken for this purpose vary according to the situation of different places, or according to the fancy of the husbandman.

Manures.

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Manures
used in
Norfolk.

In all countries where chalk, marle, or lime are to be had, they are certainly to be employed in their proper departments; but besides these, *dung*, properly so called, mixed with earth or putrid animal and vegetable substances, constitutes a principal part of the manure. In Norfolk, Mr Marshall tells us, that the *quality* of dung is attended to with greater precision than in most other districts. *Town-muck*, as it is called, is held in most estimation; and the large towns Norwich and Yarmouth supply the neighbouring country. As Yarmouth, however, is a maritime place, and otherwise in a manner surrounded by marshes, straw is of course a scarce and dear article; whence, instead of littering their horses with it, they use sand. As the bed becomes soiled or wet, fresh sand is put on, until the whole is in a manner saturated with urine and dung, when it is cleared away, and reckoned muck of such excellent quality, that it is sent for from a very great distance. With regard to other kinds of dung, that from horses fed upon hay and corn is looked upon to be the best; that of fatting cattle the next; while the dung of lean cattle, particularly of cows, is supposed to be greatly inferior, even though turnips make part of their food. The dung of cattle kept on straw alone is looked upon to be of little or no value; while the muck from trodden straw is by some thought to be better than that from the straw which is eaten by the lean-stock.—Composts of dung with earth or marle are very generally used.

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In the Mid-
land di-
strict.

In the midland counties of England, Mr Marshall informs, the cores of horns crushed in a mill have been used as manure; though he knows not with what success. His only objection is the difficulty of reducing them to powder. Dung is extremely dear in Norfolk; half a guinea being commonly given for a waggon-load driven by five horses. Great quantities of lime and marle are found in this district.—With regard to the method of raising dung in general, perhaps the observations of Mr Marshall upon the management of the Yorkshire farmers may be equally satisfactory with any thing that has yet been published on the subject.

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Mr Mar-
shall's direc-
tions for
raising
dung.

“The general practice (says he) is to pile the dung on the highest part of the yard; or, which is still less judicious, to let it lie scattered about on the side of a slope, as it were for the purpose of dissipating its virtues. The urine which does not mix with the dung is almost invariably led off the nearest way to the common sewer, as if it were thought a nuisance to the premises. That which mixes with the dung is of course carried to the *midden*, and assists in the general dissipation. A yard of *dung*, nine-tenths of which are straw, will discharge, even in dry weather, some of its more

fluid particles; and in rainy weather, is, notwithstanding the straw, liable to be washed away if exposed on a rising ground. But how much more liable to waste is a mixture of dung and urine, with barely a sufficiency of straw to keep them together? In dry weather the natural oozing is considerable; and in a wet season every shower of rain washes it away in quantities.—The Norfolk method of bottoming the dung-yard with mould is here indispensably necessary to common good management. There is no better manure for grass-lands than mould saturated with the oozings of a dunghill: it gets down quicker among the grass, and has generally a more visible effect than the dung itself. Under this management the arable land would have the self-same dung it now has; while the grass land would have an annual supply of riches, which now run waste in the sewers and rivulets.—But before a dung-yard can with propriety be bottomed with mould, the bottom of the yard itself ought to be properly formed. A part of it situated conveniently for carriages to come at, and low enough to receive the entire drainings of the stable, cattle stalls, and hog sties, should be hollowed out in the manner of an artificial drinking-pool, with a rim somewhat rising, and with covered drains laid into it from the various sources of liquid manure. During the summer months, at leisure times, and embracing opportunities of back-carriage, fill the hollow nearly full with mould; such as the scowerings of ditches, the shovellings of roads, the maiden earth of lanes and waste corners, the coping of stone-quarries, &c. &c. leaving the surface somewhat dished; and within this dish set the dung-pile, carefully keeping up a rim of mould round the base of the pile higher than the adjoining surface of the yard; equally to prevent extraneous matter from finding its way into the reservoirs, and to prevent the escape of that which falls within its circuit.”

Manures.

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In the first volume of the *Annals of Agriculture*, Mr Young, from a theory that phlogiston is the food of plants, made several experiments upon charcoal as a manure; but the results were not sufficiently favourable to induce a trial of it in the large way. It must be remembered, that though phlogiston is very probably the true vegetable food, yet it is phlogiston *volatilized*, as in putrid animal and vegetable substances, not in its *fixed* state as in charcoal, which can have any effect. See *AGRICULTURE*, Part I. Sect. i. *et seq.*

A very advantageous method of manuring grass-lands, when there is an opportunity, is that of overflowing them with water, which is mostly practised with low flat grounds. For an account of the best methods in use for this purpose, see the article *MEADOW*.

H U S

Virgilian Husbandry, a term used by authors to express that sort of husbandry, the precepts of which are so beautifully delivered in Virgil's *Georgics*. The husbandry in England is Virgilian in general, as is seen by the method of paring and burning the surface, of raftering or cross-ploughing, and of the care in destroying weeds, upon the same principle, and by much the same means. In those parts of England along the

H U S

southern coast, where the Romans principally inhabited, not only the practice, but the expressions, are in many respects the same with those of the ancient Romans, many of the terms used by the ploughmen being of Latin origin, and the same with those used by those people on the like occasions. And on a strict observation, more of Virgil's husbandry is at this time practised in England than in Italy itself. This change in the Italian

^{Husk}
^{Hussites.} talian husbandry is, however, much more to the credit of that people, than the retaining the Virgilian scheme is to ours.

Tull, who has established a new method of husbandry, observes, that it is upon the whole so contradictory to this old plan, that it may be called the *anti-Virgilian husbandry*; and adds, that no practice can be worse than the Virgilian.

HUSK, the same with what botanists call the *calyx* or *cup* of a flower. See CALYX.

HUSO, in ichthyology. See ACCIPENSER.

HUSS (John). See HUSSITES.

HUSSARS, are the national cavalry of Hungary and Croatia. Their regimentals consist in a rough furred cap, adorned with a cock's feather (the officers either an eagle's or a heron's); a doublet, with a pair of breeches to which the stockings are fastened, and yellow or red boots: besides, they occasionally wear a short upper waistcoat edged with furs, and five rows of round metal buttons; and in bad weather, a cloak. Their arms are a sabre, carbine, and pistols. They are irregular troops: hence, before beginning an attack, they lay themselves so flat on the necks of their horses, that it is hardly possible to discern their force; but being come within pistol-shot of the enemy, they raise themselves with such surprising quickness, and begin the fight with such vivacity on every side, that, unless the enemy is accustomed to their method of engaging, it is very difficult for troops to preserve their order. When a retreat is necessary, their horses have so much fire, and are so indefatigable, their equipage so light, and themselves such excellent horsemen, that no other cavalry can pretend to follow them. They leap over ditches, and swim over rivers, with surprising facility. They never encamp, and consequently are not burdened with any camp-equipage, saving a kettle and a hatchet to every six men. They always lie in the woods, out-houses, or villages, in the front of the army. The emperor, queen of Hungary, and king of Prussia, have the greatest number of troops under this name in their service.

HUSSITES, in ecclesiastical history, a party of reformers, the followers of John Hufs.

John Hufs, from whom the Hussites take their name, was born in a little village in Bohemia, called *Hufs*, and lived at Prague in the highest reputation, both on account of the sanctity of his manners and the purity of his doctrine. He was distinguished by his uncommon erudition and eloquence, and performed at the same time the functions of professor of divinity in the university, and of ordinary pastor in the church of that city. He adopted the sentiments of Wickliff, and the Waldenses; and in the year 1407 began openly to oppose and preach against divers errors in doctrine, as well as corruptions in point of discipline, then reigning in the church. Hufs likewise endeavoured to the utmost of his power to withdraw the university of Prague from the jurisdiction of Gregory XII. whom the kingdom of Bohemia had hitherto acknowledged as the true and lawful head of the church. This occasioned a violent quarrel between the incensed archbishop of Prague and the zealous reformer, which the latter inflamed and augmented from day to day, by his pathetic exclamations against the court of Rome, and

the corruptions that prevailed among the sacerdotal order.

There were other circumstances that contributed to inflame the resentment of the clergy against him. He adopted the philosophical opinions of the realists, and vehemently opposed and even persecuted the nominalists, whose number and influence were considerable in the university of Prague. He also multiplied the number of his enemies in the year 1408, by procuring, through his great credit, a sentence in favour of the Bohemians, who disputed with the Germans concerning the number of suffrages which their respective nations were intitled to in all matters that were carried by election in this university. In consequence of a decree obtained in favour of the former, which restored them to their constitutional right of three suffrages, usurped by the latter, the Germans withdrew from Prague, and, in the year 1409, founded a new academy at Leipsick. This event no sooner happened, than Hufs began to inveigh with greater freedom than he had before done against the vices and corruptions of the clergy, and to recommend, in a public manner, the writings and opinions of Wickliffe, as far as they related to the papal hierarchy, the despotism of the court of Rome, and the corruption of the clergy. Hence an accusation was brought against him, in the year 1410, before the tribunal of John XXIII. by whom he was solemnly expelled from the communion of the church. Notwithstanding this sentence of excommunication, he proceeded to expose the Romish church with a fortitude and zeal that were almost universally applauded.

This eminent man, whose piety was equally sincere and fervent, though his zeal was perhaps too violent, and his prudence not always circumspect, was summoned to appear before the council of Constance. Secured, as he apprehended, from the rage of his enemies by the safe conduct granted him by the emperor Sigismund, for his journey to Constance, his residence in that place, and his return to his own country, John Hufs obeyed the order of the council, and appeared before it to demonstrate his innocence, and to prove that the charge of his having deserted the church of Rome was entirely groundless. However, his enemies so far prevailed, that by the most scandalous breach of public faith, he was cast into prison, declared a heretic because he refused to plead guilty against the dictates of his conscience, in obedience to the council, and burnt alive in 1415; a punishment which he endured with unparalleled magnanimity and resignation.

The same unhappy fate was borne by Jerome of Prague, his intimate companion, who attended the council, in order to support his persecuted friend. Jerome, indeed, was terrified into temporary submission; but he afterwards resumed his fortitude, and maintained the opinions, which he had for a while deserted through fear, in the flames in which he expired in 1416.

The disciples of Hufs adhered to their master's doctrine after his death with a zeal which broke out into an open war, that was carried on with the most savage and unparalleled barbarity. John Ziska, a Bohemian knight, in 1420, put himself at the head of the Hussites, who were now become a very considerable party,

Hustings party, and threw off the despotic yoke of Sigismund, who had treated their brethren in the most barbarous manner. Ziska was succeeded by Procopius, in the year 1424. The acts of barbarity that were committed on both sides were shocking and horrible beyond expression: for notwithstanding the irreconcilable opposition between the religious sentiments of the contending parties, they both agreed in this one horrible principle, that it was innocent and lawful to persecute and extirpate with fire and sword the enemies of the true religion; and such they reciprocally appeared to each other. These commotions in a great measure subsided, by the interference of the council of Basil, in the year 1433.

The Hussites, who were divided into two parties, viz. the Calixtines and Taborites, spread over all Bohemia and Hungary, and even Silesia and Poland; and there are some remains of them still subsisting in all those parts.

HUSTINGS (from the Saxon word *Hustinge*, i. e. *concilium*, or *curia*), a court held in Guild-hall before the lord-mayor and aldermen of London, and reckoned the supreme court of the city. Here deeds may be inrolled, outlawries sued out, and replevins and writs of error determined. In this court also is the election of aldermen, of the four members of parliament for the city, &c. This court is very ancient, as appears by the laws of Edward the Confessor. Some other cities have likewise had a court bearing the same name, as Winchester, York, &c.

HUSUM, a town of Denmark, in the duchy of Sleswick, and capital of a bailiwick of the same name, with a strong citadel, and a very handsome church. It is seated near the river Ow, on the German Sea; and is subject to the dukes of Holstein-Gottorp. E. Long. 9. 5. N. Lat. 54. 55.

HUTCHESON (Dr Francis), a very elegant writer and excellent philosopher, was the son of a dissenting minister in the north of Ireland, and was born on the 8th of August 1694. He early discovered a superior capacity; and having gone through a school-education, began his course of philosophy at an academy, whence he removed to the university of Glasgow, where he applied himself to all the parts of literature, in which his progress was suitable to his uncommon abilities.

He then returned to Ireland; and entering into the ministry, was just about to be settled in a small congregation of dissenters in the north of Ireland, when some gentlemen about Dublin, who knew his great abilities and virtues, invited him to take up a private academy there. He complied with the invitation, and met with much success. He had been fixed but a short time in Dublin, when his singular merits and accomplishments made him generally known; and his acquaintance was sought by men of all ranks, who had any taste for literature, or any regard for learned men. The late lord viscount Molesworth is said to have taken great pleasure in his conversation, and to have assisted him with his criticisms and observations upon his "Inquiry into the Ideas of Beauty and Virtue," before it came abroad. He received the same favour from Dr Synge, lord bishop of Elphin, with whom he also lived in great friendship. The first edition of this performance came abroad without the au-

thor's name, but the merit of it would not suffer him to be long concealed. Such was the reputation of the work, and the ideas it had raised of the author, that lord Granville, who was then lord lieutenant of Ireland, sent his private secretary to inquire at the bookseller's for the author; and when he could not learn his name, he left a letter to be conveyed to him: in consequence of which he soon became acquainted with his excellency, and was treated by him, all the time he continued in his government, with distinguished marks of familiarity and esteem.

From this time his acquaintance began to be still more courted by men of distinction either for station or literature in Ireland. Archbishop King, the author of the celebrated book *De origine mali*, held him in great esteem; and the friendship of that prelate was of great use to him in screening him from two several attempts made to prosecute him, for daring to take upon him the education of youth, without having qualified himself by subscribing the ecclesiastical canons, and obtaining a licence from the bishop. He had also a large share in the esteem of the primate Bolter, who through his influence made a donation to the university of Glasgow of a yearly fund for an exhibitioner to be bred to any of the learned professions. A few years after his "Inquiry into the Ideas of Beauty and Virtue," his "Treatise on the Passions" was published: both these works have been often reprinted; and always admired, both for the sentiment and language, even by those who have not assented to the philosophy of them, nor allowed it to have any foundation in nature. About this time he wrote some philosophical papers, accounting for laughter, in a different way from Hobbes, and more honourable to human nature: which papers were published in the collection called *Hibernicus's Letters*.

After he had taught in a private academy at Dublin for seven or eight years with great reputation and success, he was called, in the year 1729, to Scotland, to be a professor of philosophy in the university of Glasgow. Several young gentlemen came along with him from the academy, and his high reputation drew many more thither both from England and Ireland. Here he spent the remainder of his life in a manner highly honourable to himself and ornamental to the university of which he was a member. His whole time was divided between his studies and the duties of his office; except what he allotted to friendship and society. A firm constitution and a pretty uniform state of good health, except some few slight attacks of the gout, seemed to promise a longer life; yet he did not exceed the 53d year of his age. He was married, soon after his settlement in Dublin, to Mrs Mary Wilson, a gentleman's daughter in the county of Langford; by whom he left behind him one son, Francis Hutcheson, doctor of medicine. By this gentleman was published, from the original manuscript of his father, "A system of Moral Philosophy, in three books, by Francis Hutcheson, LL. D. at Glasgow, 1755," in two volumes, 4to.

HUTCHINSON (John), a philosophical writer, whose notions have made no inconsiderable noise in the world, was born in 1674. He served the duke of Somerset in the capacity of steward; and in the course of his travels from place to place employed himself in

Huxing
||
Huygens.

collecting fossils: we are told, that the large and noble collection bequeathed by Dr Woodward to the university of Cambridge was actually made by him, and even unfairly obtained from him. When he left the duke's service to indulge his studies with more freedom, the duke, then master of the horse to George I. made him his riding surveyor, a kind of sinecure place of 200l. a year with a good house in the Meuse. In 1724 he published the first part of *Moses's Principia*, in which he ridiculed Dr Woodward's Natural History of the Earth, and exploded the doctrine of gravitation established in Newton's *Principia*: in 1727, he published the second part of *Moses's Principia*, containing the principles of the Scripture Philosophy. From this time to his death, he published a volume every year or two, which, with the MSS. he left behind, were published in 1748, in 12 vols 8vo. On the Monday before his death, Dr Mead urged him to be bled; saying pleasantly, "I will soon send you to Moses," meaning to his studies: but Mr Hutchinson taking it in the literal sense, answered in a muttering tone, "I believe, Doctor, you will;" and was so displeased, that he dismissed him for another physician; but died in a few days after, August 28. 1737. Singular as his notions are, they are not without some defenders, who have obtained the appellation of *Hutchinsonians*. The reader may find a distinct and comprehensive account of the Hutchinsonian system in a book intitled, *Thoughts concerning Religion, &c.* printed at Edinburgh 1743; and in a letter to a bishop, annexed to it, first printed in 1732.

HUXING of pike, among fishermen, a particular method of catching that fish.

For this purpose, they take 30 or 40 as large bladders as can be got; blow them up, and tie them close and strong; and at the mouth of each tie a line, longer or shorter according to the depth of the water. At the end of the line is fastened an armed hook, artfully baited; and thus they are put into the water with the advantage of the wind, that they may gently move up and down the pond. When a master pike has struck himself, it affords great entertainment to see him bounce about in the water with a bladder fastened to him; at last, when they perceive him almost spent, they take him up.

HUY, a town of the Netherlands, in the bishopric of Liege, and capital of Condras. It is advantageously seated on the river Maese, over which there is a bridge. E. Long. 10. 22. N. Lat. 52. 31.

HUYGENS (Christian), one of the greatest mathematicians and astronomers of the 17th century, was the son of Constantine Huygens, lord of Zuylichem, who had served three successive princes of Orange in the quality of secretary; and was born at the Hague, in 1629. He discovered from his infancy an extraordinary fondness for the mathematics; in a little time made a great progress in them; and perfected himself in those studies under the famous professor Schooten, at Leyden. In 1649, he went to Holstein and Denmark, in the retinue of Henry count of Nassau; and was extremely desirous of going to Sweden, in order to see Des Cartes, but the count's short stay in Denmark would not permit him. He travelled into France and England; was, in 1663, made a member of the Royal Society; and, upon his return into France, M.

N^o 160.

Colbert, being informed of his merit, settled a considerable pension upon him to engage him to fix at Paris; to which Mr Huygens consented, and staid there from the year 1666 to 1681, where he was admitted a member of the Academy of Sciences. He loved a quiet and studious manner of life, and frequently retired into the country to avoid interruption, but did not contract that moroseness which is so frequently the effect of solitude and retirement. He was the first who discovered Saturn's ring, and a third satellite belonging to that planet, which had hitherto escaped the eyes of astronomers. He discovered the means of rendering clocks exact, by applying the pendulum, and rendering all its vibrations equal by the cycloid. He brought telescopes to perfection, made many other useful discoveries, and died at the Hague in 1695. He was the author of several excellent works. The principal of these are contained in two collections; the first of which was printed at Leyden in 1682, in quarto, under the title of *Opera varia*; and the second at Amsterdam in 1728, in two volumes quarto, intitled *Opera reliqua*.

HUYSUM, the name of several Dutch painters; the most celebrated of whom was John, whose subjects were flowers, fruit, and landscapes. According to Mr Pilkington, this illustrious painter hath surpassed all who have ever painted in that style; and his works excite as much surprise by their finishing as they excite admiration by their truth. He was born at Amsterdam in 1682, and was a disciple of Justus van Huysum his father. He set out in his profession with a most commendable principle, not so much to paint for the acquisition of money as of fame; and therefore he did not aim at expedition, but at delicacy, and, if possible, to arrive at perfection in his art. Having attentively studied the pictures of Mignon, and all other artists of distinction who had painted in his own style, he tried which manner would soonest lead him to imitate the lightness and singular beauties of each flower, fruit, or plant, and then fixed on a manner peculiar to himself, which seems almost inimitable. His pictures are finished with inconceivable truth; for he painted every thing after nature; and was so singularly exact, as to watch even the hour of the day in which his model appeared in its greatest perfection. By the judicious he was accounted to paint with greater freedom than Mignon or Brueghel; with more tenderness and nature than Mario da Fiori, Michael Angelo di Campidoglio, or Segers; with more mellowness than De Heem; and greater force of colouring than Baptist. His reputation rose to such a height at last, that he fixed moderate prices on his works; so that none but princes, or those of princely fortunes, could pretend to become purchasers. Six of his paintings were sold at a public sale in Holland for prices that were almost incredible. One of them, a flower piece, for fourteen hundred and fifty guilders; a fruit piece for a thousand and five guilders; and the smaller pictures for nine hundred. The vast sums which van Huysum received for his works, caused him to redouble his endeavours to excel; no person was admitted into his room while he was painting, not even his brothers; and his method of mixing the tints, and preserving the lustre of his colours, was an impenetrable secret, which he never would

Huysum. would disclose. Yet this conduct is certainly not to his honour, but rather an argument of a low mind, fearful of being equalled or surpassed. From the same principle, he would never take any disciples, except one lady, named Haverman; and he grew envious and jealous even of her merit. By several domestic disquiets his temper became changed; he grew morose, fretful, and apt to withdraw himself from society. He had many enviers of his fame, which has ever been the severe lot of the most deserving in all professions; but he continued to work, and his reputation never diminished. It is universally agreed that he has excelled all who have painted fruit and flowers before him, by the confessed superiority of his touch, by the delicacy of his pencil, and by an amazing manner of finishing; nor does it appear probable that any future artist will become his competitor. The care which he took to purify his oils and prepare his colours, and the various experiments he made to discover the most lustrous and durable, are instances of extraordinary care and industry as well as capacity. From having observed some of his works that were perfectly finished, some only half finished, and others only begun, the principles by which he conducted himself may perhaps be discoverable. His cloths were prepared with the greatest care, and primed with white, with all possible purity, to prevent his colours from being obscured, as he laid them on very lightly. He glazed all other colours except the clear and transparent, not omitting even the white ones, till he found the exact tone of the colour; and over that he finished the forms, the lights, the shadows, and the reflections, which are all executed with precision and warmth, without dryness or negligence. The greatest truth, united with the greatest brilliancy, and a velvet softness on the surface of his objects, are visible in every part of his compositions; and as to his touch, it looks like the pencil of nature. Whenever he represented flowers placed in vases, he always painted those vases after some elegant model, and the bas-relief is as exquisitely finished as any of the other parts. Through the whole he shows a delicate composition, a fine harmony, and a most happy effect of light and shadow. Those pictures which he painted on a clear ground are preferred to others of his hand, as having greater lustre, and as they demanded more care and exactness in the finishing; yet there are some on a darkish ground, in which appears rather more force and harmony. It is observed of him, that in the grouping of his flowers, he generally designed those which were brightest in the centre, and gradually decreased the force of his colour from the centre to the extremities. The birds nests and their eggs, the feathers, insects, and drops of dew, are expressed with the utmost truth, so as even to deceive the spectator. And yet, after all this merited and just praise, it cannot but be confessed, that sometimes his fruits appear like wax or ivory, without that peculiar softness and warmth, which is constantly observable in nature. Beside his merit as a flower painter, he also painted landscapes with great applause. They are well composed; and although he had never seen Rome, he adorned his scenes with the noble remains of ancient magnificence which are in that city. His pictures in that style are well coloured, and every tree is distinguished by a touch that is proper for the leafing. The grounds

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are well broken, and disposed with taste and judgment; the figures are designed in the manner of Laireffe, highly finished, and touched with a great deal of spirit; and through the whole composition, the scene represents Italy, in the trees, the clouds, and the skies. He died in 1749, aged 67.

HUZZOOR, a Hindostan word signifying *The presence*; applied, by way of eminence, to the Mogul's court. According to polite usage, it is now applied to the presence of every Nabob or great man.

Huzzoor Neues; the secretary who resides at court, and keeps copies of all *firmans*, records, or letters.

HYACINTH, in natural history, a genus of pellucid gems, whose colour is red with an admixture of yellow.

The hyacinth, though less striking to the eye than any other red gem, is not without its beauty in the finest specimens. It is found of various sizes, from that of a pin's head to the third of an inch in diameter. They are harder than quartz-crystals; transparent, and formed into prisms pointed at both ends. These points are always regular with regard to the number of facets; being four on each facet, but the latter seldom: the sides of the main body are also very uncertain, in regard both to their number and shape; being found of four, five, six, seven, and sometimes of eight sides; sometimes being so compressed as almost to resemble the face of a spherical faceted garnet. Sometimes they are of a dodecaedral form like the garnet, but with more obtuse angles. The specific gravity of the hyacinth, according to Dutans, is 2.631; but Rome de L'isle says that Brisson found it to be 3.6873; and the European hyacinths to be 3.760.

The hyacinth, as well as all other gems, is divided into oriental and occidental; the former being very hard and brilliant, so that they are frequently ranked among the topazes; but when soft, they are supposed to belong to the garnet kind, as mentioned under that article. The hyacinths, however, may generally be distinguished from the garnets by losing their colour in the fire, becoming white, and not melting. There is a kind of a yellow-brown hyacinth, resembling the colour of honey, which is distinguished from the rest by the remarkable property of not being electrical, and being likewise inferior in hardness.

Our jewellers allow all those gems to be hyacinths or jacinths that are of a due hardness with the mixed colour above mentioned; and as they are of very different beauty and value in their several degrees and mixture of colours, they divide them into four kinds; three of which they call *hyacinths*, but the fourth, very improperly, a *ruby*. 1. When the stone is in its most perfect state, and of a pure and bright flame-colour, neither the red nor the yellow prevailing, in this state they call it *hyacintha la belle*. 2. When it has an overproportion of the red, and that of a duskier colour than the fine high red in the former, and the yellow that appears in a faint degree in it is not a fine, bright, and clear, but a dusky brownish yellow, then they call it the *saffron hyacinth*. 3. Such stones as are of a dead whitish yellow, with a very small proportion of red in them, they call *amber-hyacinths*. And, 4. When the stone is of a fine deep red, blended with a dusky and very deep yellow, they call it a *rubacelle*.

5 G

But

Huzzoor,
Hyacinth.

Hyacinthus But though the over proportion of a strong red in this gem has made people refer it to the class of rubies, its evident mixture of yellow shows that it truly belongs to the hyacinth.

Hyacinthia.

The hyacinth la belle is found both in the East and West Indies. The oriental is the harder, but the American is often equal to it in colour. The rubacelle is found only in the East Indies, and is generally brought over among the rubies; but it is of little value: the other varieties are found in Silesia and Bohemia.

HYACINTHUS, **HYACINTH**, in botany: A genus of the monogynia order, belonging to the hexandria class of plants; and in the natural method ranking under the 10th order, *Coronaria*. The corolla is campanulated, and there are three melliferous pores at the top of the germen. There are six species; of which the most remarkable is the *orientalis*, or eastern hyacinth. Of this there are a great number of varieties, amounting to some hundreds, each of which differs from the rest in some respect or other. This plant hath a large, purplish, bulbous root, sending up several narrow erect leaves eight or ten inches long; the flower-stalk is upright, robust, and succulent, from 10 to 15 inches in height; adorned upward with many large funnel or bell shaped flowers, swelling at the base, and cut half way into six parts; collected into a large pyramidal spike of different colours in the varieties; flowering in April or May.

These plants are cultivated with the greatest success in Holland, from whence great numbers are annually imported into Britain. Each variety is by the florists distinguished either by the name of the place where first raised, or the person who raised them, or the names of illustrious personages, as of kings, generals, poets, and celebrated ancient historians, gods, goddesses, &c. They are sold by all the seed-dealers. The prices are from three pence per root to five or ten pounds or more; and some varieties are in such high esteem among the florists, that 20*l.* or 30*l.* will be given for a single bulb. They are hardy, and will prosper any where, though the fine kinds require a little shelter during the winter. They may be propagated either by seeds or off-sets from the roots.

The properties of a good oriental hyacinth are, a stem perfectly upright, of moderate length, and so strong and well-proportioned that it will sustain the weight of the florets without bending: the florets should be large, swelling below, expanded above, and numerous, 10 or 15 at least, but are often 20 or 30 in number; and should be placed equally round the stem, the pedicles on which they grow longer below than above, diminishing gradually in length upward in such a manner as to represent a pyramid, and each pedicle sufficiently strong to support the florets without drooping. The curious in these plants are careful never to plant the fine sorts two years together in the same bed of earth; for, by planting them every year in a fresh bed, the beauty of the flowers is greatly improved.

HYACINTHIA, in antiquity, feasts held at Sparta, in honour of Apollo, and in commemoration of his favourite Hyacinth.

This Hyacinth was the son of Amyclas king of Sparta, and was beloved both by Apollo and Zephy-

rus. The youth showing most inclination to the former, his rival grew jealous; and, to be revenged, one day as Apollo was playing at the discus, i. e. quoits, with Hyacinth, Zephyrus turned the direction of a quoit which Apollo had pitched full upon the head of the unhappy Hyacinth, who fell down dead. Apollo then transformed him into a flower of the same name; and as a farther token of respect, they say, commanded this feast. The Hyacinthia lasted three days; the first and third whereof were employed in bewailing the death of Hyacinth, and the second in feasting and rejoicing.

HYADES, in astronomy, are seven stars in the bull's head, famous among the poets for the bringing of rain. Whence their name *Ἰάδες*, from the Greek *ἵαμι* "to rain." The principal of them is in the left eye, by the Arabs called *aldebaran*.

The poets feign them the daughters of Atlas and Pleone. Their brother Hyas being torn to pieces by a lioness, they wept his death with such vehemence, that the gods, in compassion to them, translated them into heaven, and placed them in the bull's forehead, where they continue to weep; this constellation being supposed to presage rain. Others represent the Hyades as Bacchus's nurses; and the same with the Dodonides, who fearing the resentment of Juno, and flying from the cruelty of king Lycurgus, were translated by Jupiter into heaven.

HYÆNA, in zoology, see **CANIS**.

HYÆNIUS LAPIS, in natural history, the name of a stone said to be found in the eyes of the hyæna. Pliny tells us, that those creatures were in old times hunted and destroyed for the sake of these stones, and that it was supposed they gave a man the gift of prophecy by being put under his tongue.

HYBERNACULUM, in botany, **WINTER-QUARTERS**; defined by Linnæus to be part of the plant which defends the embryo herb from injuries during the severities of the winter. See **BULB** and **GEMMA**.

HYBLA (anc. geog.), or **MEGARA**; which last name it took from the Megareans, who led thither a colony; called also *Hybla Parva*, and *Galeotis*. In Strabo's time Megara was extinct, but the name *Hybla* remained on account of its excellent honey named from it. It was situated on the east coast of Sicily, between Syracuse and the Leontines. *Galeota*, and *Megarenfes*, the names of the people, who were of a prophetic spirit, being the descendants of Galeus the son of Apollo. *Hybleus* the epithet.—The *Hyblai colles*, small eminences at the springs of the Alabus near this place, were famous for their variety of flowers, especially thyme; the honey gathered from which was by the ancients reckoned the best in the world, excepting that of Hymettus in Attica. By the moderns it was called *Mel Passi*, for the same reason, namely, on account of its excellent honey, and extraordinary fertility, till it was overwhelmed by the lava of Ætna; and having then become totally barren, its name was changed to *Mal Passi*. In a second eruption, by a shower of ashes from the mountain, it soon reassumed its ancient beauty and fertility, and for many years was called *Bel Passi*: and last of all, in the year 1669, it was again laid under an ocean of fire, and reduced to the most wretched sterility; since which time it is again known by

Hyades

Hybla.

Hybla
||
Hyde.

by the appellation of *Mal Passi*. However, the lava in its course over this beautiful country has left several little islands or hillocks, just sufficient to show what it formerly was. These make a singular appearance in all the bloom of the most luxuriant vegetation, surrounded and rendered almost inaccessible by large fields of black and rugged lava.

HYBLA-Major, (anc. geog.), was situated in the tract lying between mount *Ætna* and the river *Symethus*. In *Pausanias*'s time desolate.

HYBLA-Minor, or *Heraa*, (anc. geog.), an inland town of Sicily, situated between the rivers *Oanus* and *Herminius*; now *RAGUSA*.

HYBRIDA PLANTA, a monstrous production of two different species of plants, analogous to a mule among animals. The seeds of hybrid plants will not propagate.

HYBRISTICA, (of *υβρις* injury), in antiquity, a solemn feast held among the Greeks, with sacrifices and other ceremonies; at which the men attended in the apparel of women, and the women in that of men, to do honour to *Venus* in quality either of a god or a goddess, or both. Or, according to the account given by others, the *hybristica* was a feast celebrated at *Argos*, wherein the women, being dressed like men, insulted their husbands, and treated them with all marks of superiority, in memory of the *Argian* dames having anciently defended their country with singular courage against *Cleomenes* and *Demaratus*.

Plutarch speaks of this feast in his treatise of the great actions of women. The name, he observes, signifies infamy; which is well accommodated to the occasion, wherein the women strutted about in men's cloaths, while the men were obliged to dangle in petticoats.

HYDATIDES, in medicine, little transparent vesicles or bladders full of water, sometimes found solitary, and sometimes in clusters, upon the liver and various other parts, especially in hydropical cases.

HYDATOSCOPIA, called also *HYDROMANCY*, a kind of divination or method of foretelling future events by water.

HYDE (Edward), earl of *Clarendon*, and lord high chancellor of England, was descended from an ancient family in *Cheshire*, and born at *Dinton* near *Hindon*, in *Wiltshire*, in 1608. He was entered of *Magdalen-hall*, *Oxford*, where, in 1625, he took the degree of *A. B.* and afterwards studied the law in the *Middle-Temple*. In the parliament which begun at *Westminster* April 10. 1640, he served for *Wotton-Basset* in *Wiltshire*. But that parliament being soon after dissolved, he was chosen for *Saltaſh* in *Cornwall* in the long parliament. His abilities were much taken notice of, and he was employed in several committees to examine into divers grievances; but at last being dissatisfied with the proceedings in the parliament, he retired to the king, and was made chancellor of the exchequer, a privy-counsellor, and knight. Upon the declining of the king's cause, he went to France, where, after the death of king *Charles I.* he was sworn of the privy council to *Charles II.* In 1649, he and the lord *Cottington* were sent ambassadors extraordinary into Spain, and in 1657 he was constituted lord high chancellor of England. The year before the restoration, the duke of *York* fell in love with Mrs

Hyde.

Anne Hyde, the lord chancellor's eldest daughter, but carefully concealed the amour both from the king and chancellor. As it was by a promise of marriage, however, that he had gained upon her, he was afterwards induced to fulfil his engagement, and the ceremony was performed after the restoration. Upon the restoration, her father was chosen chancellor of the university of *Oxford*; and soon after created baron *Hindon*, in *Wiltshire*, viscount *Cornbury* in *Oxfordshire*, and earl of *Clarendon* in *Wiltshire*; and on the death of *Henry* lord *Falkland*, was made lord lieutenant of *Oxfordshire*. He took care neither to load the king's prerogative, nor encroach upon the liberties of the people; and therefore would not set aside the petition of right, nor endeavour to raise the star-chamber or high-commission courts again: nor did he attempt to repeal the bill for triennial parliaments; and when he might have obtained two millions for a standing revenue, he asked but one million two hundred thousand pounds *per annum*, which he thought would still put the king upon the necessity of having recourse to his parliament. In this just conduct he is said to have been influenced by the following incident, which happened some years before. When he first began to grow eminent in the law he went down to visit his father in *Wiltshire*; who, one day as they were walking in the fields together, observed to him, that men of his profession were apt to stretch the prerogative too far, and to injure liberty; but charged him, if ever he came to any eminence in his profession, never to sacrifice the laws and liberty of his country to his own interest or the will of his prince: he repeated his advice twice; and immediately falling into a fit of an apoplexy, died in a few hours: and this circumstance had a lasting influence upon him. In 1662, he opposed a proposal for the king's marriage with the infant of *Portugal*, and the sale of *Dunkirk*: however, the following year, articles of high treason were exhibited against him by the earl of *Bristol*; but they were rejected by the house of lords. In 1664, he opposed the war with *Holland*. In August 1667, he was removed from his post of lord chancellor; and in November following impeached of high treason and other crimes and misdemeanors by the house of commons: upon which he retired into France, when a bill was passed for banishing him from the king's dominions. See *BRITAIN*, n° 211, 217. He resided at *Rouen* in *Normandy*; and dying there in 1674, his body was brought to England and interred in *Westminster-abbey*. He wrote, 1. A history of the rebellion, 3 vols folio; and 6 vols octavo; a second part of which was lately bequeathed to the public by his lordship's descendant the late lord *Hyde* and *Cornbury*. 2. A letter to the duke of *York*, and another to the duchess of *York*, upon occasion of their embracing the *Romish* religion. 3. An answer to *Hobbes's Leviathan*. 4. A history of the rebellion and civil wars in *Ireland*, octavo; and some other works.

The reverend Mr *Granger*, in his *Biographical History of England*, observes, that "the virtue of the earl of *Clarendon* was of too stubborn a nature for the age of *Charles II.* Could he have been content (says he) to have enslaved millions, he might have been more a monarch than an unprincipled king. But he did not only look upon himself as the guardian of the laws and liberties of his country, but had also a pride

Hyde. in his nature that was above vice; and chose rather to be a victim himself, than to sacrifice his integrity. He had only one part to act, which was that of an honest man. His enemies allowed themselves a much greater latitude; they loaded him with calumnies, blamed him even for their own errors and misconduct, and helped to ruin him by such buffooneries as he despised. He was a much greater, perhaps a much happier, man, alone and in exile, than Charles the Second upon his throne."

And the following character of this nobleman is given by Mr Walpole. "Sir Edward Hyde (says he), who opposed an arbitrary court, and embraced the party of an afflicted one, must be allowed to have acted conscientiously. A better proof was his behaviour on the restoration, when the torrent of an infatuated nation intreated the king and his minister to be absolute. Had Clarendon sought nothing but power, his power had never ceased. A corrupted court and a blinded populace were less the causes of the chancellor's fall, than an ungrateful king, who could not pardon his lordship's having refused to accept for him the slavery of his country. Like justice herself, he held the balance between the necessary power of the supreme magistrate and the interests of the people. This never-dying obligation his cotemporaries were taught to overlook and clamour against, till they removed the only man, who, if he could, would have corrected his master's evil government. Almost every virtue of a minister made his character venerable. As an historian, he seems more exceptionable. His majesty and eloquence, his power of painting characters, his knowledge of his subject, rank him in the first class of writers; yet he has both great and little faults. Of the latter, his stories of ghosts and omens are not to be defended. His capital fault is his whole work being a laboured justification of king Charles. If he relates faults, some palliating epithet always slides in; and he has the art of breaking his darkest shades with gleams of light that take off all impression of horror. One may pronounce on my lord Clarendon, in his double capacity of statesman and historian, that he acted for liberty, but wrote for prerogative."

HYDE (Dr Thomas), professor of Arabic at Oxford, and one of the most learned writers of the 17th century, was born in 1636; and studied first at Cambridge, and afterwards at Oxford. Before he was 18 years of age, he was sent from Cambridge to London to assist Mr Brian Walton in the great work of the Polyglot Bible; and about that period undertook to transcribe the Persian Pentateuch out of the Hebrew characters, which archbishop Usher, who well knew the difficulty of the undertaking, pronounced to be an impossible task to a native Persian. After he had happily succeeded in this, he assisted in correcting several parts of Mr Walton's work, for which he was perfectly qualified. He was made archdeacon of Gloucester, canon of Christ-church, head keeper of the Bodleian library, and professor both of Hebrew and Arabic, in the university of Oxford. He was interpreter and secretary of the Oriental languages, during the reigns of Charles II. James II. and William III.; and was perfectly qualified to fill this post, as he could converse in the languages which he understood. There never was an Englishman in his situation of life who made so

great a progress; but his mind was so engrossed by his beloved studies, that he is said to have been but ill qualified to appear to any advantage in common conversation. Of all his learned works (the very catalogue of which, as observed by Anth. Wood, is a curiosity), his *Religio Veterum Persarum* is the most celebrated. Dr Gregory Sharpe, the late learned and ingenious master of the Temple, has collected several of his pieces formerly printed, and republished them, with some additional dissertations, and his life prefixed, in two elegant volumes quarto. This great man died on the 18th of February, 1702. Among his other works are, 1. A Latin translation of Ulug Beig's observations on the longitude and latitude of the fixed stars; and, 2. A catalogue of the printed books in the Bodleian library.

HYDNUM, in botany: A genus of the natural order of fungi, belonging to the cryptogamia class of plants. The fungus is echinated or prickly on the under side. One of the species, named the *Imbricatum*, is a native of Britain, and is found in woods. It hath a convex hat, tiled, standing on a smooth pillar, of a pale flesh-colour, with white prickles. It is eaten in Italy, and is said to be of a very delicate taste.

HYDRA, in fabulous history, a serpent in the marsh of Lerna, in Peloponnesus, represented by the poets with many heads, one of which being cut off, another immediately succeeded in its place, unless the wound was instantly cauterized. Hercules attacked this monster; and having caused Iolaus to hew down wood for flaming brands, as he cut off the heads he applied the brands to the wounds, by which means he destroyed the Hydra.

This hydra with many heads is said to have been only a multitude of serpents, which infested the marshes of Lerna near Mycene, and which seemed to multiply as they were destroyed. Hercules, with the assistance of his companions, cleared the country of them, by burning the reeds in which they lodged.

HYDRA, in astronomy, a southern constellation, consisting of a number of stars, imagined to represent a water serpent. The stars in Hydra, in Ptolemy's catalogue, are twenty-seven; in Tycho's, nineteen; in Hevelius's, thirty-one.

HYDRA, in zoology; a genus of the order of zoophyta, belonging to the class of vermes. There are several species, known by the general name of polypes. See **POLYPE**; and **ANIMALCULE**, n° 24. & seq.

HYDRAGOGUES, among physicians, remedies which evacuate a large quantity of water in dropsies. The word is formed of *υδωρ* water, and *αγειν* to draw or lead; but the application of the term proceeds upon a mistaken supposition, that every purgative had some particular humour which it would evacuate, and which could not be evacuated by any other. It is now, however, discovered, that all strong purgatives will prove *hydragogues*, if given in large quantity, or in weak constitutions. The principal medicines recommended as hydragogues, are the juice of elder, the root of iris, foldanella, mechoacan, jalap, &c.

HYDRANGEA, in botany: A genus of the digynia order, belonging to the decandria class of plants; and in the natural method ranking under the 13th order, *Succulenta*. The capsule is bilocular, birostrated,

Hydrastis and cut round, or parting horizontally. There is but one species, viz. the *arborescens*, a native of North America, from whence it hath lately been brought to Europe, and is preserved in gardens, more for the sake of variety than beauty. It rises about three feet high; and hath many soft pithy stalks, garnished with two oblong heart-shaped leaves placed opposite. The flowers are produced at the top of the stalks in a corymbus. They are white, composed of five petals with ten stamina surrounding the style. It is easily propagated by parting the roots; the best time for which is the end of October. The plants thrive best in a moist soil, and require to be sheltered from severe frosts.

HYDRASTIS, in botany: A genus of the polygamia order, belonging to the polyandria class of plants; and in the natural method ranking with those of which the order is doubtful. There is neither calyx nor nectarium; there are three petals; and the berry is composed of monospermous acini.

HYDRARGYRUM, a name given to mercury, or quicksilver. The word is formed of *ὕδωρ aqua*, "water," and *ἄργυρος, argentum*, "silver;" q. d. *water of silver*, on account of its resembling liquid or melted silver.

HYDRAULICS, the science of the motion of fluids, and the construction of all kinds of instruments and machines relating thereto. See **HYDROSTATICS**, sect. iv.

HYDRENTEROCELE, in surgery, a species of hernia, wherein the intestines descend into the scrotum, together with a quantity of water.

HYDROCELE, in surgery, denotes any hernia arising from water; but is particularly used for such a one of the scrotum, which sometimes grows to the size of one's head, without pain, but exceedingly troublesome to the patient. See **SURGERY**.

HYDROCEPHALUS, a preternatural distension of the head to an uncommon size by a stagnation and extravasation of the lymph; which, when collected in the inside of the cranium, is then termed *internal*; as that collected on the outside is termed *external*. See (the *Index* subjoined to) **MEDICINE**.

HYDROCHARIS, the **LITTLE WATER-LILY**: A genus of the anneandria order, belonging to the diœcia class of plants; and in the natural method ranking under the first order, *Palme*. The spathe of the male is diphyllous; the calyx trifid; the corolla tripetalous; the three interior filaments styliiferous. The female calyx trifid; the corolla tripetalous; the styles six; the capsule has six cells, and is polyspermous inferior. There is only one species, a native of Britain, growing in flow streams and wet ditches. It hath kidney-shaped leaves, thick, smooth, and of a brownish green colour, with white blossoms. There is a variety with double flowers of a very sweet smell.

HYDROCOTYLE, **WATER-NAVELWORT**: A genus of the digynia order, belonging to the pentandria class of plants; and in the natural method ranking under the 45th order, *Umbellata*. The umbel is simple; the involucre tetraphyllous; the petals entire; the seeds are half round and compressed. There are several species, none of which are ever cultivated in gardens. One of them, a native of Britain, growing in marshy grounds, is supposed by the farmers to occasion

the rot in sheep. The leaves have central leaf-stalks, with about five flowers in a bundle; the petals are of a reddish white.

HYDROGRAPHY, the art of measuring and describing the sea, rivers, canals, lakes, &c.—With regard to the sea, it gives an account of its tides, counter-tides, soundings, bays, gulphs, creeks, &c.; as also of the rocks, shelves, sands, shallows, promontories, harbours; the distance and bearing of one port from another; with every thing that is remarkable, whether out at sea or on the coast.

HYDROLEA, in botany: A genus of the digynia order, belonging to the pentandria class of plants; and in the natural method ranking with those of which the order is doubtful. The calyx is pentaphyllous; the corolla rotaceous; the filaments at the base are cordate; the capsule is bilocular and bivalved.

HYDROMANCY, a method of divination by water, practised by the ancients. See **DIVINATION**, n° 7.

HYDROMEL, honey diluted in nearly an equal weight of water. When this liquor has not fermented, it is called *simple hydromel*; and when it has undergone the spirituous fermentation, it is called the *vinous hydromel* or *mead*.

Honey, like all saccharine substances, vegetable or animal, is susceptible of fermentation in general, and particularly of the spirituous fermentation. To induce this fermentation, nothing is necessary but to dilute it sufficiently in water, and to leave this liquor exposed to a convenient degree of heat. To make good vinous hydromel or mead, the whitest, purest, and best-tasted honey must be chosen; and this must be put into a kettle with more than its weight of water: a part of this liquor must be evaporated by boiling, and the liquor scummed, till its consistence is such that a fresh egg shall be supported upon its surface without sinking more than half its thickness into the liquor; then the liquor is to be strained and poured through a funnel into a barrel: this barrel, which ought to be nearly full, must be exposed to a heat as equable as is possible, from 20 to 27 or 28 degrees of Mr Reaumur's thermometer, taking care that the bung-hole be slightly covered, but not closed. The phenomena of the spirituous fermentation will appear in this liquor, and will subsist during two or three months, according to the degree of heat; after which they will diminish and cease. During this fermentation, the barrel must be filled up occasionally with more of the same kind of liquor of honey, some of which ought to be kept apart on purpose to replace the liquor which flows out of the barrel in froth. When the fermentation ceases, and the liquor has become very vinous, the barrel is then to be put in a cellar and well closed. A year afterwards the mead will be fit to be put into bottles.

The vinous hydromel or mead is an agreeable kind of wine: nevertheless it retains long a taste of honey, which is displeasing to some persons; but this taste it is said to lose entirely by being kept a very long time.

The spirituous fermentation of honey, as also that of sugar, and of the most of vinous liquors, when it is very saccharine, is generally more difficultly effected, requires more heat, and continues longer than that of ordinary wines made from the juice of grapes; and these vinous liquors always preserve a saccharine taste, which

Hydrastis
||
Hydroco-
tylc.

Hydrogra-
phy
||
Hydromel.

Hydrom-
eter.

which shows that a part only of them is become spirituous.

HYDROMETER, an instrument to measure the gravity, density, velocity, force, &c. of water and other fluids. See **HYDROSTATICS**, n^o 13.

Though this instrument is incapable of determining the specific gravity of liquors with perfect accuracy, yet in the way of public business it has undoubtedly the advantage of every other, on account of the ease and expedition with which it can be used; and for this reason it has been adopted by government, in order to determine the strength of spirituous liquors.

Phil. Trans.
vol. 80.
p. 342.

Dr Blagden, who was lately employed to make experiments on this subject, is of opinion, that glass is the most proper material for the construction of an hydrometer. Its sensibility depends on the size of its stem. In the old areometers the stem was made so large, that the volume of water displaced between its least and greatest immersions was equal to the whole difference of specific gravity between water and alcohol, or perhaps more; whence its scale of divisions must be very small, and could not give the specific gravity with much accuracy. On this account weights were introduced, by means of which the stem could be made smaller; each weight affording a new commencement of its scale; so that the size of the divisions on a given length was doubled, tripled, &c. as one or more weights were employed, the diameter of the stem being lessened in the subduplicate proportion of the increased length of the divisions. This method, however, in our author's opinion, has been carried to excess; and the following is recommended as a proper mean betwixt these extremes, to determine the specific gravity of spirituous liquors to three places of decimals.

In this method the weight of water is supposed to be unity, or 1 with any number of cyphers annexed: "the whole compass of numbers, therefore, from rectified spirit to water, at 60 degrees of heat, would be the difference between 825, the weight of rectified spirit, and 1000 the weight of water, which is 175. To make allowance for the lightest spirit and heaviest water, however, at all the common temperatures, the difference may be supposed 220. The stem might show every twenty of these divisions, and thus ten weights would be sufficient for the whole. Hence the inconvenience of shifting the weights, which has always been complained of, would in a great measure be avoided: as people versant in that business would seldom err so far as to the whole amount of the difference previous to making any trial. Hence also the stem may be made small enough, and the scale graduated so nicely as to make the instrument sufficiently accurate.

According to this arrangement, it would be proper to have the weights adapted to the hydrometer marked with the different specific gravities which they are intended to indicate; Zero on the top of the stem without a weight being supposed to mean 800, and 20 at the bottom to signify 820, which number the first weight would carry; the successive weights being marked, 840, 860, &c.; and the division on the stem cut by the fluid under trial, would be a number always to be added to that on the weight; the sum of the two showing the true specific gravity. The weights should undoubtedly be made to apply on the top of the

stem, so as never to come in contact with the liquor; and in using the hydrometer, its stem should always be pressed down lower than the point at which it will ultimately rest, that by being wetted it may occasion no resistance to the fluid. The instrument itself should be of as regular a shape and with as few inequalities as possible, that all impediments to its motions may be avoided.

HYDROMPHALUS, in medicine and surgery, a tumor in the navel, arising from a collection of water.

HYDROPHANES, **OCULUS MUNDI**, or *Lapis Mutabilis*, a kind of precious stone highly esteemed among the ancients, but little known to the moderns till Mr Boyle made his observations upon it. Its specific gravity is about 2.048; its colour of an opaque whitish brown; it is not soluble in acids nor affected by alkalies, but is easily cut and polished. Sometimes it gives fire with steel, sometimes not. It is infusible *per se*; but when urged by a blow-pipe, changes to a brownish brittle substance. It is found in beds over the opals in Hungary, Silesia, and Saxony, and over the chalcedonies and agates in Iceland. These stones in general are either of a yellowish green, milky grey, or of a yellow like that of amber.

The most remarkable property of this stone is, that it becomes transparent by mere infusion in any aqueous fluid; but gradually resumes its opacity when dry. There are three of these stones in the British museum at London; the largest of them about the size of a cherry stone, but of an oval form. It is opaque and coloured like a common yellow pea; it may be scratched, though not without difficulty, by a common knife, notwithstanding which it seems to leave a mark upon glass. It does not ferment with nitrous acid. When it has lain some hours in water, it becomes transparent, and of a yellow amber colour. The change begins soon after the immersion, and at one end in form of a little spot; but in a small one of the same kind, the transparency begins round the edges. By degrees the spot increases, until the whole stone becomes uniformly clear throughout: when out of the water it loses its transparency, first at one end, and then gradually over the remainder, until the whole has become opaque; which change happens in less time than it takes to become transparent. This change is not entirely peculiar to the hydrophanes. Bergman informs us, that some steatites produce the same effect; and M. Magellan, that the crust of chalcedonies and agates frequently produce the same appearance.

Messrs Bruckman and Veltheim were the first who particularly inquired into the nature of this stone, and investigated its properties, many of which were brought to light by their endeavours. Their account is to the following purpose. As soon as the stone is put into water, it exhales a musty smell, several air-bubbles arise, and it becomes gradually transparent. Some of the stones become colourless as soon as they are thoroughly transparent, others have a more or less deep yellow colour; some acquire a beautiful ruby colour; and, lastly, others gain a fine colour of mother-of-pearl, or of a bluish opal. Whatever be the colour of the liquor in which the hydrophanes is immersed, it gains only its usual degree of transparency with the colour peculiar to it. When we look at it in its moist state,

Hydrom-
phalus,
Hydro-
phanes.

Hydro-
phobia
||
Hydro-
phyllax.

Hydro-
phyllum
||
Hydro-
scope.

we perceive a luminous point, varying its situation as the position of the eye is altered. This luminous point is not, according to Mr Bruckman, the immediate image of the sun, but a reflection of that image refracted in the substance of the stone itself, a phenomenon which probably gave rise to the name of *oculus mundi*. Mr Bruckman left a piece of this stone weighing 35 grains seven hours in water, the space requisite to make it perfectly transparent; and in that time he found that it had gained three grains in weight. The hydrophanes becomes much sooner transparent when put into hot water; and the same happens if it be dipped in a very dilute acid, or rather a very dilute solution of alkali. When dipped in oil of vitriol, it becomes very quickly transparent, and will continue so, on account of the strong attraction of that acid for moisture, which takes as much from the atmosphere as is necessary to keep the stone transparent; but its opacity will return if it be dipped in an alkaline liquor and afterwards dried.

HYDROPHOBIA, an aversion or dread of water: a terrible symptom of the *rabies canina*; and which has likewise been found to take in violent inflammations of the stomach and in hysteric fits. See *MEDICINE-Index*.

HYDROPHYLACIA, a word used by Kircher and some others who have written in the same system, to express those great reservoirs of water which he places in the Alps and other mountains for the supply of rivers which run through the several lower countries. This he makes to be one of the great uses of mountains in the economy of the universe.

HYDROPHYLLAX, in botany: A genus of the

monogynia order, belonging to the tetrandia class of plants. The calyx is tetrapartite; the corolla funnel-shaped; the fruit two-edged and one seeded.

HYDROPHYLLUM, WATER-LEAF: A genus of the monogynia order, belonging to the pentandria class of plants; and in the natural method ranking with those of which the order is doubtful. The corolla is campanulated, with five melliferous longitudinal stria on the inside; the stigma is bifid; the capsula globose and bivalved. There is only one species, viz. the Virginianum, or water-leaf of Morinus. It grows naturally in Canada and many other parts of America on moist spongy ground. The root is composed of many strong fleshy fibres, from which arise many leaves with foot-stalks five or six inches long, jagged into three, five, or seven lobes, almost to the midrib, indented on their edges. The flowers are produced in loose clusters hanging downward, are bell-shaped, and of a dirty white colour. It may be propagated by parting the roots; which ought to be done in autumn, that the plants may be well rooted before spring, otherwise they will require a great deal of water.

HYDROPS, in medicine, the same with **DROPSY**.

HYDROSCOPE, an instrument anciently used for the measuring of time.

The hydroscope was a kind of water-clock, consisting of a cylindrical tube, conical at bottom: the cylinder was graduated, or marked out with divisions, to which the top of the water becoming successively contiguous, as it trickled out at the vertex of the cone, pointed out the hour. See **HYDROSTATICS**, sect. vi.

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Gallia
Galliard.

caverns to be left in it. These islands are uncultivated and uninhabited since the old hermit of St Antonio died. Myrtle covers most of the surface.

GALLIA, a large country of Europe, called *Gallia* by the Greeks. The inhabitants were called *Galli*, *Celtæ*, *Celtiberi*, and *Celtoscythæ*. Ancient Gaul was divided into four different parts by the Romans, called *Gallia Belgica*, *Narbonensis*, *Aquitania*, and *Celtica*. *Gallia Belgica* was the largest province, bounded by Germany, *Gallia Narbonensis*, and the German ocean; and contained the modern country of Alsace, Lorraine, Picardy, with part of the low countries, and of Champagne, and of the isle of France. *Gallia Narbonensis*, which contained the provinces now called *Languedoc*, *Provence*, *Dauphiné*, *Savoy*, was bounded by the Alps and Pyrenean mountains, by *Aquitania*, *Belgicum*, and the Mediterranean. *Aquitania Gallia*, now called the provinces of *Poitou*, *Santonge*, *Guienne*, *Berry*, *Limosin*, *Gascogne*, *Auvergne*, &c. was situated between the *Garumna*, the Pyrenean mountains, and the ocean. *Gallia Celtica*, or *Lugdunensis*, was bounded by Belgium, *Gallia Narbonensis*, the Alps, and the ocean. It contained the country at present known by the name of *Lyonnois*, *Touraine*, *Franche Comté*, *Senenois*, *Switzerland*, and part of *Normandy*. Besides these grand divisions, there is often mention made of *Gallia Cisalpina* or *Citerior*, *Transalpina* or *Uterior*, which refers to that part of Italy which was conquered by some of the Gauls who crossed the Alps. By *Gallia Cisalpina*, the Romans understood that part of Gaul which lies in Italy, and by *Transalpina*, that which lies beyond the Alps, in regard only to the inhabitants of Rome. *Gallia Cispadana*, and *Transpadana*, is applied to a part of Italy conquered by some of the Gauls; and then it means the country on this side of the Po, or beyond the Po, with respect to Rome. By *Gallia Togata*, the Romans understood *Cisalpine Gaul*, where the Roman gowns *toga* were usually worn. *Gallia Narbonensis* was called *Braccata*, on account of the peculiar covering of the inhabitants for their thighs. The epithet of *Comata* is applied to *Gallia Celtica*, because the people suffered their hair to grow to an uncommon length. The inhabitants were great warriors, and their valour overcame the Roman armies, took the city of Rome, and invaded Greece in different ages. They spread themselves over the greatest part of the world. They were very superstitious in their religious ceremonies, and revered the sacerdotal order as if they had been gods. They long maintained a bloody war against the Romans, and Cæsar resided 10 years in their country before he could totally subdue them. See GAUL.

GALLIARD, or GAGLIARDA, a sort of dance anciently in great request; consisting of very different motions and actions, sometimes proceeding *terra à terra* or smoothly along; sometimes capering; sometimes along the room, and sometimes acrois. The word is French, *gailliarde*, or rather Italian; and literally signifies "gay, merry, sprightly." This dance was also called *Romanesque*, because brought from Rome.

Thoinot Arbeau, in his *Orchesography*, describes it as consisting of five steps, and five positions of the feet, which the dancers performed before each other, and

whereof he gives us the score or tablature, which is of six minims, and two triple times.

GALLIARDA, in the Italian music, the name of a tune that belongs to a dance called a *galliard*. The air of it is lively in triple time.

GALLICAN, any thing belonging to France: thus the term *Gallican church* denotes the church of France, or the assembly of the clergy of that kingdom.

GALLICISM, a mode of speech peculiar to the French language, and contrary to the rules of grammar in other languages. With us it is used to denote such phrases or modes of speech in English as are formed after the French idiom.

GALLINACEUS LAPIS, a glossy substance produced by volcanic fires; the same with the *lapis obsidianus* of the ancients. A kind of it is brought from Paris, of a beautiful black, resembling the colour of a large crow in that country named *gallinazo*.

GALLINÆ, in ornithology, an order of birds. See ORNITHOLOGY.

GALLINACIOUS, an appellation given to the birds of the order of the *gallinæ*.

GALLING, or EXCORIATION, in medicine. See EXCORIATION.

GALLING of a Horse's Back, a disorder occasioned by heat, and the chafing or pinching of the saddle.

In order to prevent it, some take a hind's skin well garnished with hair, and fit it neatly under the pannel of the saddle, so that the hairy side may be next the horse.

When a horse's back is galled upon a journey, take out a little of the stuffing of the pannel over the swelling, and sew a piece of soft white leather on the inside of the pannel: anoint the part with salt butter, and every evening wipe it clean, rubbing it till it grow soft, anointing it again with butter, or, for want of that, with grease: wash the swelling, or hurt, every evening with cold water and soap; and strew it with salt, which should be left on till the horse be saddled in the morning.

GALLINULE. See FULICA.

GALLIPOLI, a sea-port town of Italy, in the kingdom of Naples, and in the Terra-di-Otranto, with a bishop's see. It stands on a rocky island, joined to the continent by a bridge. From the remotest antiquity this was a station so favourable to commerce, that every maritime power wished to secure it; and it is a reproach to government, that nothing has been done to improve its natural advantages: at present, Mr Swinburn informs us, it has neither harbour nor shelter for shipping. Charles II. demolished Gallipoli for its adherence to Frederick of Aragon. The Venetians treated it with great cruelty in the 15th century; and in 1481 it was pillaged by the Turks. To preserve it from future calamities, Charles V. repaired and strengthened its fortifications; and, since that period, it has enjoyed the benefits of peace and trade, which have rendered it the most opulent and gayest town upon the coast, though its inhabitants do not exceed 6000 in number. Consumptions and spitting of blood are rather frequent here, occasioned by the great subtilty of the air, which is ventilated from every quarter. The buildings are tolerable, and some of

Gallipoli
||
Gallois.

of the churches have good paintings. The cotton trade brings in about 30,000 ducats a-year. Good muslins, cotton stockings, and other parts of apparel, are manufactured here, and purchased by the Provençals; for Gallipoli has no direct trade with the metropolis. Silk and saffron were formerly objects of traffic; but heavy duties and oppression have caused them to be abandoned. The wine of this territory is good; but from dryness of climate, and shallowness of soil, the vintage frequently fails in quantity; and then the Gallipolitans have recourse to Sicily for a supply. Oil is the great support of the place: two-thirds of the produce of its olive plantations are exported to France, and the north of Italy; the remainder is sent to Naples, and other ports of the kingdom. Neapolitan merchants, by means of agents settled at Gallipoli, buy up the oils, from year to year, long before an olive appears upon the tree; and the price is afterwards settled by public authority. The Neapolitans sell their oil to the merchants of Leghorn; and, if faithfully served by their factors in Terra di Otranto, ought to double their capital in two years. But, to balance this advantage, they run great risks, pay exorbitant interest, and have frequent bankruptcies to guard against. E. Long. 18. 10. N. Lat. 40. 20.

GALLIPOLI, a sea-port town of Turkey in Europe, in the province of Romania, seated at the mouth of the sea of Marmura, with a good harbour, and a bishop's see. It contains about 10,000 Turks, 3500 Greeks, besides a great number of Jews. The bazar or bezestein, the place where merchandizes are sold, is a handsome structure, with domes covered with lead. It is an open place, and has no other defence than a paltry square castle. The houses of the Greeks and Jews have doors not above three feet and an half high, to prevent the Turks riding into their houses. E. Long. 26. 59. N. Lat. 40. 30.

GALLIUM, in botany. See GALIUM.

GALLO, an island of the South Sea, near the sea-coast of Peru, in South America, which was the first place possessed by the Spaniards when they attempted the conquest of Peru; it is also the place where the bucaniers used to come for wood and water, and to refit their vessels when they were in these parts. W. Long. 88. 0. N. Lat. 2. 30.

GALLO-Græcia, a country of Asia Minor, near Bithynia and Cappadocia. It was inhabited by a colony of Gauls, who assumed the name of *Gallogræci* because a number of Greeks had accompanied them in their emigration. See GALATIA.

GALLOIS (John), born at Paris in 1632, was an universal scholar; but chiefly noted for having been, in conjunction with M. de Sallo who formed the plan, the first publisher of the *Journal des Scavans*. The first journal was published January 5. 1665; but these gentlemen criticised new works so rigorously, that the whole tribe of authors united and cried it down. De Sallo declined entirely after the publication of the third number: but Gallois ventured to send out a fourth, on January 4th 1666; though not without a most humble advertisement at the beginning, wherein it was declared, that the author "would not presume to criticise, but simply give an account of the books."

This, with the protection of M. Colbert, who was greatly taken with the work, gradually reconciled the public to it: and thus began literary journals, which have been continued from that time to this, under various titles, and by various writers. Gallois continued his journal to the year 1674, when more important occupations obliged him to turn it over to other hands. M. Colbert had taken him into his house to teach him Latin; and when he lost his patron in 1683, he was first made librarian to the king, and then Greek professor in the royal college. He died in 1707.

GALLON, a measure of capacity both for dry and liquid things, containing four quarts. But these quarts, and consequently the gallon itself, are different, according to the quality of the thing measured: For instance, the wine-gallon contains 231 cubic inches, and holds eight pounds averdupois of pure water; the beer and ale gallon contains 281 solid inches, and holds ten pounds three ounces and a quarter averdupois of water; and the gallon for corn, meal, &c. 272½ cubic inches, and holds nine pounds thirteen ounces of pure water.

GALLOP, in the manege, is the swiftest natural pace of a horse, performed by reaches or leaps; the two fore-feet being raised almost at the same time; and when these are in the air, and just ready to touch the ground again, the two hind-feet are lifted almost at once. The word is borrowed from the barbarous Latin *calupare*, or *calpare*, "to run." Some derive it from *caballicare*; others from the Greek *καλπαίζω*, or *καλπάζω*, to spur a horse.

GALLOPER, in artillery, is the name of a carriage which serves for a pound and a half gun. This carriage has shafts so as to be drawn without a limber, and is thought by some to be more convenient and preferable to other field carriages; and it may likewise serve for our light three and six pounders.

GALLOWAY, a county of Scotland, which gives the title of Earl to a branch of the noble family of Stuart. It is divided into two districts; the western, called *Upper Galloway*, being the same with Wigtonshire; and the eastern, or stewartry of Kirkcudbright, called *Lower Galloway*. See KIRKCUDBRIGHT and WIGTONSHIRE.

Mull of Galloway, the south cape or promontory of all Scotland, in the county of Galloway, on the Irish sea.

GALLOWAYS is the name of a peculiar sort of horses, so called from the county of Galloway in Scotland, where they are bred. Tradition reports that this kind of horses sprung from some Spanish stallions, which swam on shore from some of the ships of the famous Spanish armada, wrecked on the coast; and coupling with the mares of the country, furnished the kingdom with their posterity. They were much esteemed, and of a middling size, strong, active, nervous, and hardy.

GALLOWS, an instrument of punishment, whereon persons convicted capitally of felony, &c. are executed by hanging.

Among our ancestors it was called *furca*, "fork;" a name by which it is still denominated abroad, particularly in France and Italy. In this latter country,

Gallon
||
Galloway.

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